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approach

DECEMBER 1972 THE NAVAL AVIATION SAFETY REVIEW

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ASOs Speak Out/THE TIGER VS THE FOOL

"A TIGER knows the limitations of his aircraft, and can make it perform to the extent of these limits.

"A Fool either doesn't know the limitations or tries to get 'just a little more' than the book allows.

"A Tiger knows his personal limits and operates within them.

"A Fool figures he can push himself a little more and *really* show everyone what a tiger he is.

"A Tiger can take an up aircraft and perform a mission to perfection.

"A Fool will take a marginal aircraft and try to do the same because he thinks he can hack it.

"A Tiger knows the rules and regulations and, while observing them, gives a professional performance.

"A Fool feels he has to break rules and regulations to show what a tiger he is.

"A Tiger is not a fool, but . . .

"A Fool usually thinks he's a tiger."

This comparison was penned by an ASO and submitted along with numerous comments from other squadron ASOs in response to a Naval Safety Center request. The Center is in the process of preparing a new *Aviation Safety Officer's Guide*. These ASO inputs will be used in developing the theory and philosophy of naval aviation safety contained therein. The staff of APPROACH found most of these ASO comments to be solid and well-thoughtout. We, therefore, believe readers will find these few selected comments to be both interesting and beneficial.

Setting the Example

Many ASOs commented on the need for the ASO to set a good example:

- "The first and single most important job of the ASO is to set a good example. The old saying 'Don't do as I do, but do as I say do' does not work in a father/son relationship. Neither will it work in an ASO/pilot relationship. (I wear my O_2 mask, and I expect my fellow pilots to do the same.)"
- "Know your NATOPS cold – and I mean cold. Many younger pilots think the safety officer is the most checked out pilot in the squadron. So you'd better be!"
- "Be a contributor yourself. Set the example and encourage others to follow your lead . . . More important, it will get them to thinking; and this is where you make money."

Involve All Hands

- "I'd like to stress that a good flying record and safety program is possible only through the combined efforts of everyone associated with flight operations. This includes pilots, crewmembers, navigators, the flight surgeon, the ops boss, all maintenance personnel, the CO, etc. *In order to get their unqualified support, an ASO must assume a leadership role*. He must be able to reach the airman as well as have access to the CO. He can only do this by proper indoctrination, communication, training, and constant observation of all facets of operations. Adjustments must be made often in the

safety program, and immediate steps must be taken to correct weak areas, such as flight line operations, in order to eliminate ground accidents. In short, stay on top of the situation at all times . . . and recognize that a pat on the back can do your program wonders and help the morale of the entire unit."

Many other ASOs had this same idea, but took a somewhat different approach:

- "What's important is that every member of a unit be actively involved to a meaningful extent in the safety program. This goal can only be accomplished by developing an innovative program that involves personnel at all levels of organization."
- "Don't forget the maintenance man. The gents who work on your bird should be treated well! Show the guys in the shops you are looking out for their well-being. This includes knowing if they have problems . . . and helping them if they do. You don't have to be a chaplain, but you can at least give them the chaplain's phone number."
- "Safety consciousness (and participation – *Ed.*) is the essence of any safety program. It must be based on the recognition of the worth of each and every individual, his opinions, and his capability or potential to contribute to the overall program.

"The individual must feel he has worth and will be listened to (and he should be).

"The ASO must create positive attitudes. This can involve anything from training and inspection, to getting the air-conditioner in the barracks fixed, to taking steps to improve the meal services."

- "Take a positive approach. Don't focus on the lad who blew it; instead, get the name of the lad who did well and see that he gets a deserved pat on the back from a sufficiently 'heavy' individual."

Along the same lines, a number of ASOs chose to stress professionalism as a means of involving the individual:

- "Both the CO and I like to use the word *professionalism*, instead of the word *careful*. We feel that the word careful has a pussycat connotation to which pilots refuse to relate."
- "Aircrews and maintenance men report to the squadron with certain basic skills acquired in the RAG or FRAMP. It then becomes the responsibility of the squadron's more experienced officers and petty officers to mold these skills into indepth expertise. Amateurs

tend to assimilate the methods of their instructors, and that's why it's necessary to explain, step-by-step, certain skills or techniques that have become second nature to the instructor. If the 'old pro' appears to gloss over a basic maintenance function or flight procedure, the young aspiring 'rookie' will probably place little importance on that procedure or even forget it entirely. Thus, the foundation on which future knowledge is placed is weakened. The desire to do the best job possible must be passed from the professional to the amateur. Increased training lectures, more emphasis on quality control, and safety standdowns do little *unless a desire to attain a professional status can be instilled or reinforced in the recipient."*

How the ASO Should Operate

Many comments dealt with the attributes and actions required of a good ASO. Being highly visible and accessible, particularly in the areas of NATOPS and quality assurance, rated high. Here are some specific views:

- *"Be approachable.* I feel that the days of the raging, 'Bible-pounding,' hell-raising individual we call the safety officer are over. My experience has shown that a low key approach is best. The safety officer must be an approachable person with whom a problem can be discussed without fear of undue criticism or rebuke. If the problem can't be discussed, it can't be solved."
- *"Be involved.* Visit the maintenance shops. Demonstrate that you are really interested, watchful, and involved in *their* level of participation in the safety program."
- *"Be tactful.* Study some psychology. Know how to get the facts from people not only when investigating a mishap but while 'shooting the bull.' Usually a friendly word does more good than a reprimand."
- *"Be informed.* Get to know all the people – aircrews and maintenance crews alike. Get to know their job, but don't *tell* them about it. *Ask* them."
- *"Be knowledgeable.* The ASO should know as much (or more) about the airplane he flies as anyone in his unit. He should be able to speak the languages of Supply, Maintenance, and Ops. Know what publications cover what. Know who key personnel are and how much they know. Then make yourself known as an interested party. Work within the chain of command, but don't hesitate to talk about safety with anyone. Be quick to entertain ideas from others. Ask questions and seek the right answers."
- *"Be a good administrator.* Know the administrative functions of your job. Know all the tools you have at your disposal – safety URs, Anymouse reports, ground accident/incident reports, etc. You can accomplish a lot by making timely and accurate reports. Know what and where the sources of information are and know how to get it to the troops – AOMs, bulletin boards, safety committee meetings, etc."

Only a Sample

We've presented only a brief sampling of the many inputs received from aviation safety officers. Altogether, these comments represent a treasury of naval aviation safety philosophy and expertise that will be the foundation of the new *Aviation Safety Officer's Guide.* This Guide, when completed, will be used as a textbook at the Naval Postgraduate School and will be made available to every aviation safety officer in the Navy. It promises to be a valuable addition to the ASO's "5-foot shelf." ◄

The SAFEREC Program

What is it?

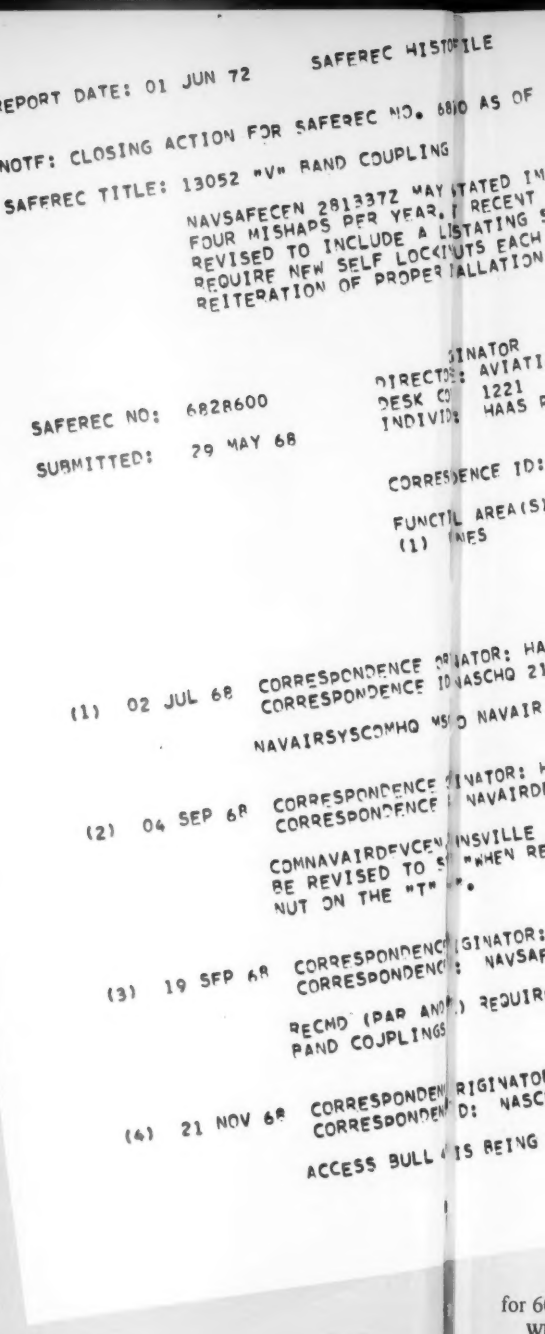
THE NAVAL SAFETY CENTER receives thousands of mishap reports annually. The best that can be said of the mishaps which occasion such reports is that they often provide lessons that can be useful in preventing similar mishaps from occurring. Thus, every time a mishap occurs, it is studied and analyzed by the investigators at the reporting command, by endorsers, and by the Naval Safety Center. The object, of course, is to determine what action should be taken and by whom.

Because the Naval Safety Center receives mishap reports by the thousands, it makes recommendations by the hundreds. The recommendations may involve equipment or procedural changes and are directed to the command(s) which have primary responsibility.

Many of these safety recommendations involve matters which require substantial time to effect, owing to design, test, and funding requirements. They also often require a great deal of study and coordination among many commands. In order to ensure that such recommendations do not fall through the cracks or stagnate, a method is needed to enable Safety Center management to monitor all safety recommendations on a continuing basis.

This need is met by the Safety Center's "SAFEREC" program. Under this program, each department or directorate head having cognizance is responsible for originating a standard form for each safety recommendation. This form is forwarded to the NAVSAFECEN data processing department where a control number is assigned, and the recommendation stored in the Center's computer data bank. Thereafter, anytime any action is taken on the recommendation either by NAVSAFECEN or other commands, an additional transaction form is prepared to update the computer file.

A computer printout is prepared monthly showing each safety recommendation along with a brief of all transactions which have been taken (see Fig. 1). In addition, a special printout is prepared which lists all safety recommendations which have had no action taken



SAFEREC HISTORY FILE

REPORT DATE: 01 JUN 72

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SAFEREC NO: 6828600

SUBMITTED: 29 MAY 68

ORIGINATOR
DIRECTOR: AVIATI
DESK CO 1221
INDIVID: HAAS

CORRESPONDENCE ID:

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SAFETY AREA(S)
(1) AVIATION

MANAGER
DIRECTORATE: AVIATION (M&M)
DESK CODE: 1221
INDIVIDUAL: DUTTON H L

SIGINATOR
TO: AVIATION (M&M)
CO 1221
ID: HAAS P E

ESIDENCE ID: NAVSAFECEN 281337Z MAY 68

ACTION AGENCY
CURRENT: CHNAVMAT
ORIGINAL: CHNAVMAT

TIL AREA(S)
FINES

DESK CODE: 221

RIGINATOR: HAAS P E
ID NASCHQ 211654Z JUN 68

S D NAVAIR DEVCEN JOHNSVILLES REQUEST INVEST OF NAVSAFCEN RECOMMENDATIONS.

DESK CODE: 221

IGINATOR: HAAS P E
NAVAIRDEVCEN LTR AMMS/6177 22 AUG 68

INSVILLE LTR AMMS/6177 OF 22AUG68 TO NAVAIRSYSCOMHQ RECOMMENDED ACCESS BULL 46 A
"WHEN REINSTALLING A USED COUPLING. USE A NEW MS-21046 HIGH TEMP, SELF-LOCKING
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NAVSAFECEN 171934Z SEP 68

) REQUIREMENTS BE REVIEWED AND REVISED AS NECESSARY TO INCLUDE INSPECTION OF "V"

DESK CODE: 1221

RIGINATOR: HAAS P E
D: NASCHQ 202225Z NOV 68

IS BEING REVISED PER NAVSAFECEN RECOMMENDATIONS. APPROX ISSUE DATE 20 NOV 68.

Fig. 1

for 60 or more days.

Whenever final action has been taken on a safety recommendation (when it has been implemented or rejected), it is transferred to the historical file. A historical file printout is made quarterly.

The various computer printouts are routed to NAVSAFECEN management and to CNO. Thus, any reviewer can quickly determine:

(1) Which safety recommendations are pending.

(2) What action has been taken.

(3) Which safety recommendations are stagnating (reflected by a lack of action for 60 days or more).

(4) The complete history of any safety recommendation that has been "closed out."

In short, the "SAFEREC" program is a valuable management tool in the never-ending effort to prevent mishaps – thereby saving critical manpower and costly material. ◄

BEHIND THE POWER CURVE

LAUNCHED on a combat strike, the *Phantom II* was heavy. With a full bag of fuel (plus centerline) and a wing load of Mk-82s, it grossed out at 52,000 lbs.

There were no aircraft discrepancies prior to launch. Both afterburners functioned normally.

Off the bow the F-4 cleared starboard and commenced accelerating. At approximately 400 feet and 220 knots, the flap handle was raised, and the pilot noticed his gear indicator still showed DOWN. He'd raised the gear handle just off the bow.

Commenting to his RIO that the gear indicated all down, he noted his flaps indicated UP.

The pilot reduced power to avoid exceeding 250 knots, the maximum permissible airspeed with landing gear extended. The RIO notified the ship of their problem.

The pilot, commencing a shallow turn back toward the ship, directed his attention to the gear problem, cycling the gear handle twice and checking the circuit breakers. The landing gear still indicated down.

According to the RIO, the aircraft began "weaving slightly." The pilot added full military power after noting that they were losing altitude and airspeed. He

then selected afterburner, but neither he nor the RIO felt the afterburners light. The nozzle position indications were not observed, and the only engine instruments the pilot noticed were the fuel flow indicators – reading about 8000 pph.

As the *Phantom* decelerated through 170 knots descending below 250 feet, the pilot controlled the aircraft with rudder to keep the wings level. He put the flap handle down and informed the RIO that ejection might be necessary. The RIO informed the ship of the ejection possibility.

The pilot, still sensing no afterburner lightoff, observed an airspeed of 160-170 knots and an altitude of 150-200 feet. He directed the RIO to eject. The RIO ejected, followed immediately by the pilot. The ejections and rescues were relatively uneventful, and both crewmembers were returned to the ship, uninjured, after spending less than 10 minutes in the water.

The mishap board concluded that the likelihood that both afterburners had failed to light was remote. This was based on past history of the aircraft and the fact that both afterburners had lit normally on the catapult approximately 2 minutes earlier. Moreover, there had been no afterburner failures on any of the squadron aircraft during the past 6 months, indicating that failure of afterburners to light on the J79-8 engine was extremely uncommon. Also, since each engine afterburner system is completely independent of the other, there would have to have been a simultaneous dual failure.

After thorough consideration of all factors, the Board concluded the most probable cause of this accident was the failure of the pilot to maintain airspeed while troubleshooting the landing gear malfunction. The primary factors leading to the accident were the initial power reduction when the landing gear malfunctioned, the amount of time spent troubleshooting the malfunction, and the failure of the pilot to jettison external stores once an extremis situation had developed. The Board offered this analysis:

"Upon realizing that the landing gear had not retracted after launch, the pilot reduced power 'slightly' to prevent exceeding the landing gear limiting airspeed. He then directed his attention to troubleshooting the problem. The aircraft was heavy (approximately 51,000 lbs) and had the additional drag of the extended gear.

The pilot stated that he had cycled the gear handle twice, observing no results, and checked the landing gear circuit breaker in. The time required for the troubleshooting evolution (approximately 15 seconds) while maintaining altitude was probably sufficient to produce an unnoticed decay in airspeed at the aircraft's weight and configuration, thereby placing it on the backside of the power curve. A significant factor in the deceleration would be the amount of power reduced. Even a small reduction of power, in the order of 5 percent per engine, would probably not permit the aircraft to maintain flying speed. The slight turn which had been initiated affected stall speed and lift available.

"When the pilot noticed the aircraft settling and the airspeed decaying through 200 knots, he added full military power, then selected afterburners. Neither aircrewmember felt a response from the afterburners. The pilot did not observe the nozzle position indicators which would have been the only positive cockpit indications of afterburner lightoff. He did observe that both fuel flow indicators read approximately 8000 pph.

"In the F-4 at high angles-of-attack, response to afterburner lightoff is barely noticeable. During the pilot's interview with the Board, he stated he definitely felt that the afterburners did not light and that he was getting full power from the aircraft's engines. The aircraft continued to settle and decelerate, and at sometime during this phase, the pilot felt the rudder pedal shaker, which is energized at 21.3 units angle-of-attack. The flap handle was placed down at approximately 170 knots and 250 feet of altitude. When the aircraft continued to lose airspeed and altitude, the pilot decided to eject.

"During the sequence of events, the pilot did not consider jettisoning the external stores. With this particular aircraft configuration, actuation of the external stores emergency release would have reduced aircraft gross weight by 10,300 pounds (20 percent of the total gross weight) and would have reduced total drag on the aircraft by a considerable amount. Such a change in the thrust-to-weight ratio would definitely have created a more favorable flying envelope for the aircraft and decreased the aircraft stall speed by 14 knots. It is also significant to note that the pilot's previous fleet experience was in the RF-8, an aircraft which never carries external stores."

The Board also noted that, to a lesser degree, a probable cause and definitely a contributing factor was the failure of the RIO to advise the pilot of the decreasing airspeed and altitude and to recommend jettisoning the external stores.

An endorser to the AAR stated, in part:

"F-4 pilots quickly become accustomed to the high performance and excess thrust of the F-4 during takeoff. The F-4 performance makes the takeoff transition rapid requiring a minimum of monitoring from the flight crew.

"Prior to the accident, the pilot had made only seven high gross weight catapult launches. Since no problem was encountered during the transition phase of these flights, he never encountered conditions without excess power available. His actions after discovering the gear had not retracted were calm and purposeful. The reduction of power below full military and the turn downwind were predicated on an assumption that the aircraft would fly in that configuration. The rapid decrease of airspeed and altitude are apparent from the pilot's statement that at one moment he was having no problems at 400 feet with sufficient airspeed and the next moment he was at 250 feet and 170 knots.

"Data received from the manufacturer concerning thrust required versus velocity indicate that as airspeed decreases below 250 knots, thrust required increases rapidly and at 170 knots would have required at least full military power in the aircraft configuration at the time of the mishap.

"The sink rate and high angle-of-attack may have placed the aircraft in a condition where even the belated application of full afterburner was insufficient to recover prior to impact. Rather than an act of complacency, it appears more a lack of understanding of the performance of the F-4 at different gross weights and configurations. In short, a failure in training."

Watch The Hoist Cable

DURING a personnel and cargo transfer to a destroyer, the ship cargo handler attached the SH-3 hoist cable to a 75-pound canvas bag by passing the cable hook through the handles, then snapped the hook to the cable. When the bag was hoisted to the aircraft, the crewman noticed the cable unraveling. When the bag was recovered, he counted 9 of 19 strands broken.

The hoist cable was in excellent condition on preflight and during operational checks. There was no evidence of corrosion or wear. The probable cause of the unraveling was the method of attachment. With a small loop being formed, tension caused the cable to kink and unravel. The unequal load caused strand separation.

Cannibalization

THE REQUIREMENT for an aircraft to meet operational commitments usually leads to the practice of removing parts from one aircraft for another. This cannibalization is potentially unsafe. Such practice doubles the opportunity for maintenance error and doubles also the workload of the maintenance force. Literally, we cannot afford to support operations through cannibalization. The decision to cannibalize should be made only after allowing sufficient supply response time and only after realistic evaluation of the requirement for that particular aircraft has been made.

Flight schedules must be written to allow for expected aircraft system attrition. Maintenance personnel must be allowed sufficient time between flights for pilot debrief and proper turnaround inspections. Effective maintenance on down aircraft requires additional time for troubleshooting the discrepancies, supply response, replacement of failed components, and an effective quality assurance inspection.

During the shorebased training cycle, an important squadron mission is to train all personnel for the demanding environment of shipboard operations. The accomplishment of this mission sometimes dictates the loss of an aircraft from the flight schedule to permit maintenance personnel the opportunity to train properly. The derogation to pilot training suffered due to a down aircraft is often outweighed by the benefit of improved maintenance training.

Squadrons must ensure that maintenance effort is expended in an effective manner. To realize this goal, special pilot debrief teams representing each system of the aircraft have proven extremely worthwhile. Additionally, pilots must furnish as much information as possible in a clear, concise manner for maintenance to troubleshoot effectively. The pilot is not a maintenance troubleshooter. His job is to record *all* the information necessary for maintenance and give facts, not conjecture.

The decision to cannibalize to meet commitments must not be shaded by misplaced pride, unrealistic evaluation of the commitment, or the desire to establish aircraft availability records or flight hour totals. Naval aviation is a competitive profession, but we must learn to compete within the bounds of safe maintenance practices if we are to survive as a combat ready force.

COMLATWING ONE msg.

INTO THE CATWALK

GOOD lineup is one of the essentials for a good carrier landing; when you miss, it's big trouble.

An E-2B *Hummer* aborted an AEW/CAP control flight shortly after takeoff. After a foul-deck waveoff, the E-2B turned downwind. The pilot was instructed to fly a "tight" pattern.

Light rain was encountered at the 90-degree position. The copilot (plane commander) asked the pilot if he wanted his windshield wipers. The pilot answered affirmatively, then requested they be secured after feeling that they didn't help.

The final approach was started a little left of centerline. The pilot corrected. From that point on, the pilot flew on centerline and on glide path. On short final, a left drift commenced, followed immediately by slight settling. The LSO called for power. The pilot responded. Coincident with the power addition, the left wing dropped, further aggravating the left drift, while the nose raised to a higher than normal attitude for landing.

Number 1 crossdeck pendant was engaged, inflight, approximately 12 feet left of center. The arrestment pulled the nose of the aircraft further left, and rollout continued in a near straight line toward the Fresnel lens. The *Hummer* had decelerated to about 5 knots when the port mainmount rolled over the deck edge coaming. The E-2 came to rest with the port wing resting on the Fresnel lens and the port vertical stabilizer resting on the flight deck (see photos). The crew exited the aircraft uninjured.

The E-2 came to rest with the port wing resting on the Fresnel lens...

The pilot had a total of 528 hours flight time and 20 arrested landings, 11 of which were in the E-2. His last arrested landing, however, had taken place 21 days earlier. It was concluded that lack of recent carrier refresher experience had adversely affected his carrier approach and landing technique. The copilot (plane commander) was cited as a contributing factor in that he had failed to properly supervise the flight.

An endorser to the AAR commented:

"This accident again points out the necessity for a proper scan, attention to all details during a landing approach, and the unique flight characteristics of the E-2 in the landing configuration. Although the E-2 comes aboard at a slow speed, it is far from a stable platform when in an on-speed, minimum power condition and has a tendency to "wallow" with application of aileron, rudder, and/or power. The large excess of power available, unless applied judiciously, creates considerable torque requiring positive pilot action to maintain directional control. This flight characteristic cannot be overemphasized to all who are involved in the operation of E-2 aircraft." ◄

Surprise Ending

I PUT on my new summer flight suit and got a thorough weather brief for my stopover (three-leg) return flight to the other coast. The weather man said it was clear the whole way, so I filed and blasted off. I knew the winds were bad, but I thought I would give it a try. Two 1100 and one 900-mile legs to Homeplate. Close for an F-4J, but I decided I would refile in the air if necessary.

The first leg went as expected. I shut down with about 3000 lbs remaining. The field, as forecast, was clear with 10 miles visibility. The second leg, however, started out a little different. I was short changed about 800-1000 lbs fuel (in addition to getting JP-4) plus 110 knots of wind *on the nose*. I tried FL 310, but it was not too good. I cruise-climbed to FL 350, but it was worse. I computed and recomputed until I figured there was no possible way to make my destination, so I refiled with Center for Mountain AFB with 8000 pounds and 200 miles to go.

The Center didn't question me one bit, and I was still enjoying a beautiful scenic view of the Midwest. A casual check of "surface prog" during weather brief gave me the impression that everything was rosy all over the USA, and my view seemed to confirm it. By now, a little upset about a four-leg vice three-leg trip, I complained to my RIO who concurred and prepared for our new destination.

The Center was happy to give me radar vectors. Enroute, I checked the approach plate and figured fuel at destination, estimated TAS at that altitude (landing altitude), and gave some thought to expected rollout characteristics. I called Center and increased my TAS to 550 from 505 and decided to dump 1500 lbs of fuel. Having done that, I approached my enroute descent point, only to notice a high overcast ahead and below me. Center didn't inform me of anything unusual, and worse yet, my complacency and optimistic attitude convinced me that I *still* didn't need to check weather. (This was the first time in my flying career – 1500 hours in type, that I did not check weather after refiling – not too bright!) So I commenced my descent, expecting to break out shortly. Passing 10,000 MSL, I asked for ceiling and was told, to my surprise (still in the soup), that weather at Mountain AFB was *200 obscured with 1/8 to 3/4-mile visibility!* Surprised? That's a gross understatement, but I said to myself, "Well, you're here, and the only thing to do is to try it once."

At one-half mile I was waved off (did not have clearance to land because tower could not see the runway). Then Mountain AFB TACAN went out, and there I was, 3.0 fuel state, with nowhere to go. I asked for an alternate, but there was none I could reach. My heading

The purpose of Anymouse (anonymous) Reports is to help prevent or overcome dangerous situations. They are submitted by Naval and Marine Corps aviation personnel who have had hazardous or unsafe aviation experiences. These reports need not be signed. Self-mailing forms for writing Anymouse Reports are available in readyrooms and line shacks. All reports are considered for appropriate action.

REPORT AN INCIDENT, PREVENT AN ACCIDENT

gyro was off, and I was told that the next pass would be no gyro. I agreed. In the approach I was cursing myself but still flying the glideslope. I took it down to 175 feet AGL and leveled off. Told to wave off at ½-mile, I continued at 175 feet AGL and saw the runway numbers. I told them I was going to land and did.

I touched down with 7000 feet remaining. I deployed the chute – although 8 inches of snow on the runway slowed me, weather cocking forced me to jettison the chute and use nosewheel steering.

So there I stood in my summer flight suit, in 16 inches of snow, signing the fuel stub. The driver of the flight-line truck remarked, "Surprised you came in here with weather like this." I was surprised, too, but I tried not to show it.

The weather went up in about an hour and I left – *in a hurry.*

Surprisedmouse

Boy, you lucked out this time. Although you imply that the weather guesser gave you a forecast of clear weather throughout the area before takeoff, you should have obtained an updated forecast (in the air) for Mountain AFB **before** *refiling. Although Air Traffic Control Publication 7110.9A requires the controller to provide the pilot with weather* **prior** *to authorizing an enroute descent, this apparently was not done in your case. Even so, the FLIP Planning Document requires that the pilot and controller be in agreement on the type of approach to be conducted at destination (PAR, ASR, ILS, etc.)* **before** *an enroute descent is commenced. Had any discussion taken place on the type of approach to be conducted, it seems likely that the weather at Mountain AFB would also have come up for discussion.*

Not to belabor the issue, but quite often, pilots tend to become complacent flying high and well protected in APC – to the point that they tend to rely too heavily on outside agencies for volunteer info, i.e., weather and alternate information. Although ATC is really getting fancy relative to handling aircraft enroute, the pilot is, to date, still required to lower the gear and set the bird down – **safely.**

Pliers Upset Fliers

AN E-2B was scheduled for a strike control mission with an 1100 launch, the first flight of the day. The crew briefed and performed their preflight according to NATOPS. The aircraft was started, and the pretaxi checklist completed. The aircraft was then taxied to the No. 1 catapult and the takeoff checklist completed.

With the aircraft under catapult tension, engines were run up with all gages reading normal. The pilot saluted the cat officer, and off they went.

As the *Hummer* was about halfway down the cat, a pair of vice-grip pliers suddenly appeared and lodged between the copilot's windscreen and the windscreen wiper arm.

After the aircraft was airborne and level at about 500 feet, the pilot and copilot discussed their peculiar problem. With the E-2B launched one-half hour early on a planned alpha strike control mission and the deck spotted with a large number of strike aircraft ready for launch, did the problem warrant an immediate recovery? What if the pliers came loose and slid around the copilot's side into the propeller arc?

The course of action decided upon was to keep the speed low, climb to altitude, feather the starboard engine and actuate windscreen wipers to dislodge the pliers. However, on climbout, the pliers were dislodged and passed upward over the top of the aircraft causing no apparent damage. The aircraft continued on its assigned mission with no further problems.

Upon return to the ship, the aircraft was given a thorough inspection. No damage was found. Using the E-2B turnaround inspection MRCs, the aircraft was given a thorough preflight. It was placed in an up status.

Some interesting points to ponder:

1. A daily inspection was performed, and the aircraft was readied for flight by the plane captains 6 to 7 hours before flight.

2. Maintenance control gave the maintenance department permission to work on the aircraft, provided they could "put it back together in a hurry," if necessary.

3. Was the aircraft launched with the job incomplete, "put back together in a hurry?"

4. The copilot stated he knew maintenance had been performed on the nose cap, so he looked extra critically in that area.

5. Was QA aware of maintenance being performed on the aircraft?

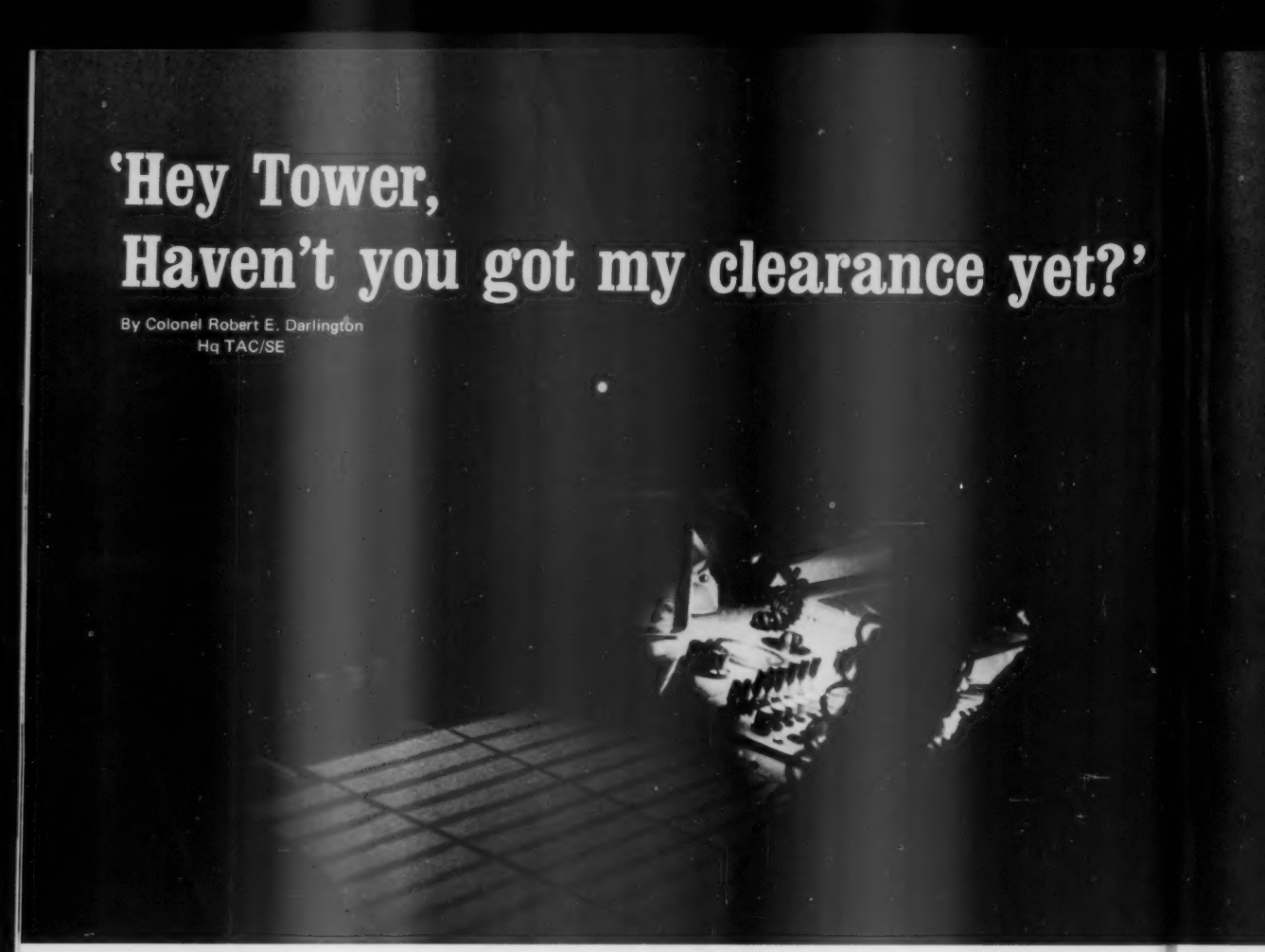
There are other thoughts to ponder; but with the number of personnel required to launch a *Hummer*, how could *everyone* miss seeing a pair of shiny pliers against a flat black surface?

Backendmouse

This mishap points out again how easy it is to let the tempo of operations and the need for maintenance and fast turnarounds cloud the mission of Maintenance: Safe, dependable aircraft, capable of handling assigned missions with maximum personnel safety and equipment dependability.

'Hey Tower, Haven't you got my clearance yet?'

By Colonel Robert E. Darlington
Hq TAC/SE



NOT too many years ago, there were a few outfits which required a cross-training program for air traffic controllers and aviators. The idea was to strap a young tower or GCA controller into the back seat of a jet and let him enjoy the thrill of a dwindling fuel supply while trying to work into the landing sequence. The pilots, on the other hand, were required to visit tower, GCA, or RAPCON on a recurring basis so they could see how much fun it was to handle a mix of fast airplanes, slow airplanes, IFR traffic, and VFR traffic with only one or two runways to play with and no less than a "million" people talking at the same time.

The result of the program was a healthy respect for the other fellow's problems. Unfortunately, the decrease in available cockpit/flying hours and the increase in recurring ground training duties make it tough to keep that kind of program alive.

But the need for mutual respect within the air traffic control/aviator team, however, hasn't decreased at all.

There seems to be a natural law which demands that the growth of air traffic shall always outpace the supply of modern equipment and experienced controllers. Given this fact, the best thing the pilot can do is to help ease the situation with some plain, old-fashioned radio discipline – well-tempered with courtesy, consideration, and composure.

When I hear a pilot arguing with an air traffic controller, it always prints out in my mind as *adolescent aviator*. If an airborne pilot has a valid reason for not accepting a clearance or lack of same, there are procedures, such as declaring an emergency, for seeking resolution.

If safety considerations are not involved, the only place to pursue an air traffic disagreement is ON THE GROUND, not over the radio.

There are two major reasons for this. First, the pilot is usually tuned in on only one frequency. Thus, he may not have as great an awareness of the total traffic situation as the controller who is listening in on UHF and VHF frequencies plus a couple of landlines. Lacking this

appreciation, the wrong chatter, argument, or delay at the wrong time could very well be putting another aviator in a bigger pinch than the first pilot thinks *he's* in.

Secondly, if a situation is getting so sporty that a crusty old aviator of 5 or 6 (or more) years experience blows his cool with a blast at the controller, consider this: If the *pilot* is that *rattled,* how will his blast affect the rattle-factor of the first term controller who possesses limited experience in aviation?

Good radio discipline is not entirely a matter of composure and minimum verbiage. It also includes waiting until you're sure the frequency is clear before transmitting after a channel change, and it includes letting the arrival controller know your complete intentions without making him play "20 Questions."

The courtesy and consideration part of the formula doesn't necessarily pertain to the use of "yes, sir," "thank you," and "good evening." These are good phrases if you happen to be calling Salt Lake Center around midnight, but definitely out of order at 1100 hours local in the Washington Terminal Control area.

The increase in air traffic and corresponding radio traffic, as you know, has resulted in reduced mandatory reporting and clearance readback requirements. But occasionally, radio discipline means talking a bit more than required by the rules.

Now, I realize that a simple "Roger" will suffice to acknowledge understanding of a new altitude clearance under the new rules. However, when it's obvious that a center controller is straining to sandwich other traffic into airspace I'm vacating, it's just good common courtesy to read back the altitude clearance. It's also a good idea to put yourself in the shoes of the tower controller who, in an effort to expedite traffic, clears an aircraft to "Taxi into position and hold." While a simple "Wilco" will do, a "position and hold" acknowledgement is better. Instructions to "hold short" should also be clearly acknowledged. (*OPNAV 3710.7F* requires *Navy pilots to so acknowledge.* – Ed.)

One more pet peeve: There is no control tower in existence that can manufacture an ATC flight clearance, and probably darn few that would intentionally conceal or withhold a valid clearance. When a pilot is strapped into a 115° Fahrenheit cockpit, waiting to start engines, he can be excused for making an occasional query on the status of a clearance delay. On the other hand, I've heard aircraft commanders translate their embarrassment for late takeoffs by getting tough with ground control. The reaction simply means that the tower supervisor has to discontinue supervision of the younger controllers while he tries to reduce the noise from the irate aircraft commander. If a real problem is developing in the traffic pattern, cross off one pair of experienced eyes that could be helping to resolve it.

To this point, I've been painting the aviator as the villain of the radio discipline team, but it works the other way, too. Someday, I'd like to disabuse that fellow in RAPCON of the idea that I possess a photographic memory. I refer to the scene where I'm in the soup, in a descending turn, and I'm handed off from center to approach control. Initial contact is made, and in one mouthful, I'm given a new altitude clearance, a new vector, altimeter setting, active runway, ceiling, visibility, winds, remarks, and missed approach procedures. It would be nice to claim that I'm smart enough to consistently assimilate all that. But to be honest, 8.4 flying hours per month just doesn't equip some people with that ability. WHEN THE TIME PERMITS, friend controller, please give me all those numbers, a few at a time.

Courtesy *TAC Attack*

Passenger Briefings

EVERY day, pilots of naval aircraft take off with passengers who are unfamiliar with the aircraft in which they are riding and unaccustomed to wearing the required safety and survival gear. Even worse, some cabin attendants/crew chiefs don't brief passengers; and others even permit them to ride without wearing appropriate survival gear.

Generally, the omission of briefings and the habit of allowing passengers to ride without donning appropriate survival gear takes place aboard tactical aircraft rather than transports. The pros, who routinely carry passengers, follow the regulations and seldom allow this to happen.

Most passengers, including the sometime aerial hitchhiker, have to be shown how to put on and inflate lifevests, how to don the parachute harness, and where to find the chute. Many passengers still have to be shown how to buckle and unbuckle seatbelts and shoulder harnesses. In tactical aircraft, they must be shown how to hook into the ICS.

Several articles concerning passenger briefings have appeared in APPROACH ("Island Hopping," Jan 1969; "Pro-Am," Mar 1970; "Fire! Everyone Out," Dec 1971). All of these involved mishaps in which passengers were not briefed on emergency procedures/emergency exits, or were cursorily briefed and didn't understand what they were told. Words alone are better than nothing; but a briefing in which passengers can read a placard with printed instructions, see a schematic of escape routes and exits, *and* see a cabin attendant's demonstration of safety and survival equipment is a better way. (See Figs. 1-3.)

OPNAVINST 3710.7F, NATOPS General Flight and Operating Instructions Manual, spells out who can ride as a passenger (para 201 k), on what they shall be briefed (paras 210 d and 603 a), procedures for loading/unloading (para 601 h), and briefing responsibility (para 603 a). The latter reference assigns the responsibility, in the case of helicopter passengers, under certain conditions, to "the cognizant local commander(s)." One other reference to passengers is contained in General NATOPS, and that pertains to waiving safety and survival

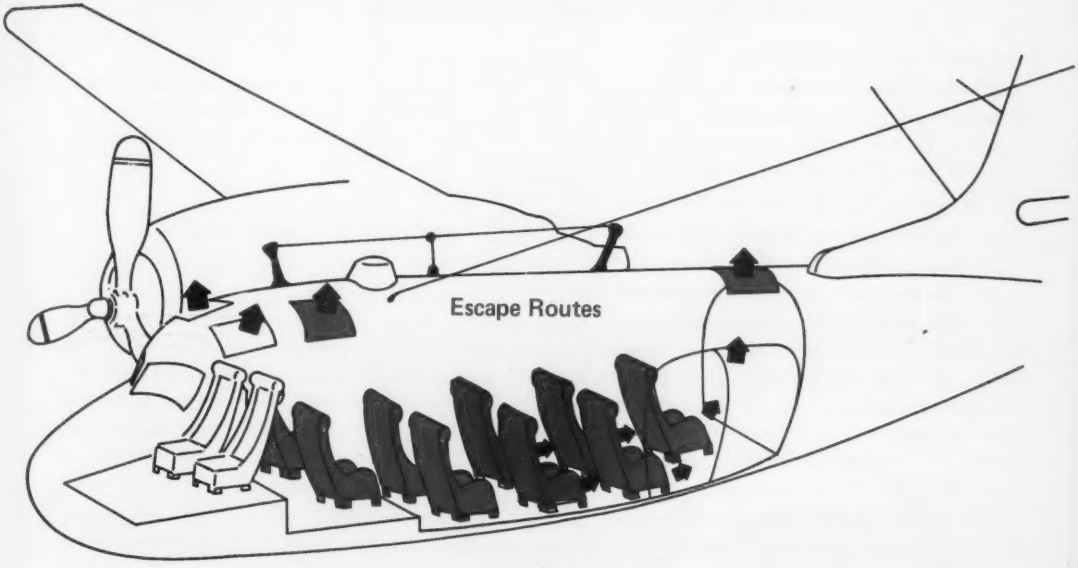
Continued on page 20

DITCHING. The C-1 series aircraft has been ditched successfully under varying conditions. The success of these ditchings was the result of crewmembers and passengers carrying out correct procedures. The following measures should be taken prior to impact in case of ditching:

1. Remove eyeglasses
2. Remove sharp objects from pockets
3. Loosen ties and collars
4. Cross arms in front of face
5. Remain seated with safety belt/shoulder harness fastened until aircraft comes to a complete stop.
6. Release seat belt/shoulder harness.

ESCAPE HATCHES. There are two escape hatches in the cabin. The forward hatch is located above seat No. 1, and the aft hatch is located on the overhead just forward of the cabin aft bulkhead. The forward hatch may be jettisoned in an emergency; the aft hatch is hinged and opens inward only. In the event of ditching, passengers in seats 5 through 9 will exit through the aft overhead hatch. Passengers in seats 1 through 4 exit the forward hatch.

NOTE. The port side passenger door should not be used as an escape hatch when ditching. With door closed, the aircraft will remain afloat for a longer time.



LIFERAFTS. Two seven-man liferafts are provided, one located in the aft section of each engine nacelle. Both liferafts may be released simultaneously by manual operation of any of three handles placarded LIFERAFT – PULL TO RELEASE, located as follows:

1. Pilot's compartment
2. On the overhead above seat No. 7
3. Externally on the upper surface of the fuselage directly above the release handle in the cabin. When manning the liferafts, passengers are assigned to the liferaft on the same side as they were seated.

IF you have any questions concerning the C-1A or your duties in the case of ditching, please ask the aircrewman. He will be pleased to answer your questions.

Fig. 1

Continued

VR-1 Flight Attendant Passenger Briefing

"Ladies/Gentlemen: May I have your attention for a moment, please. The crew would like to welcome you aboard Flight___to___. Your aircraft commander is____, copilot____, and your flight attendant ____. The aircraft is heated and/or air-conditioned for your comfort, and should it become uncomfortably warm or cold, please inform the flight attendant. The temperature will be adjusted.

"Our enroute flight time to ____will be____. We will cruise at____feet in pressurized flight, which means our cabin altitude will be____feet. Our cruising airspeed will be____knots. Please observe the "Fasten Seatbelt, No Smoking" sign located in the rear of the cabin. The "No Smoking" sign will be turned off when safely airborne, and you will be permitted to smoke. The "Fasten Seatbelt" sign will be turned off when considered appropriate by the aircraft commander."

VR-1 Flight Attendant's Ditching Briefing

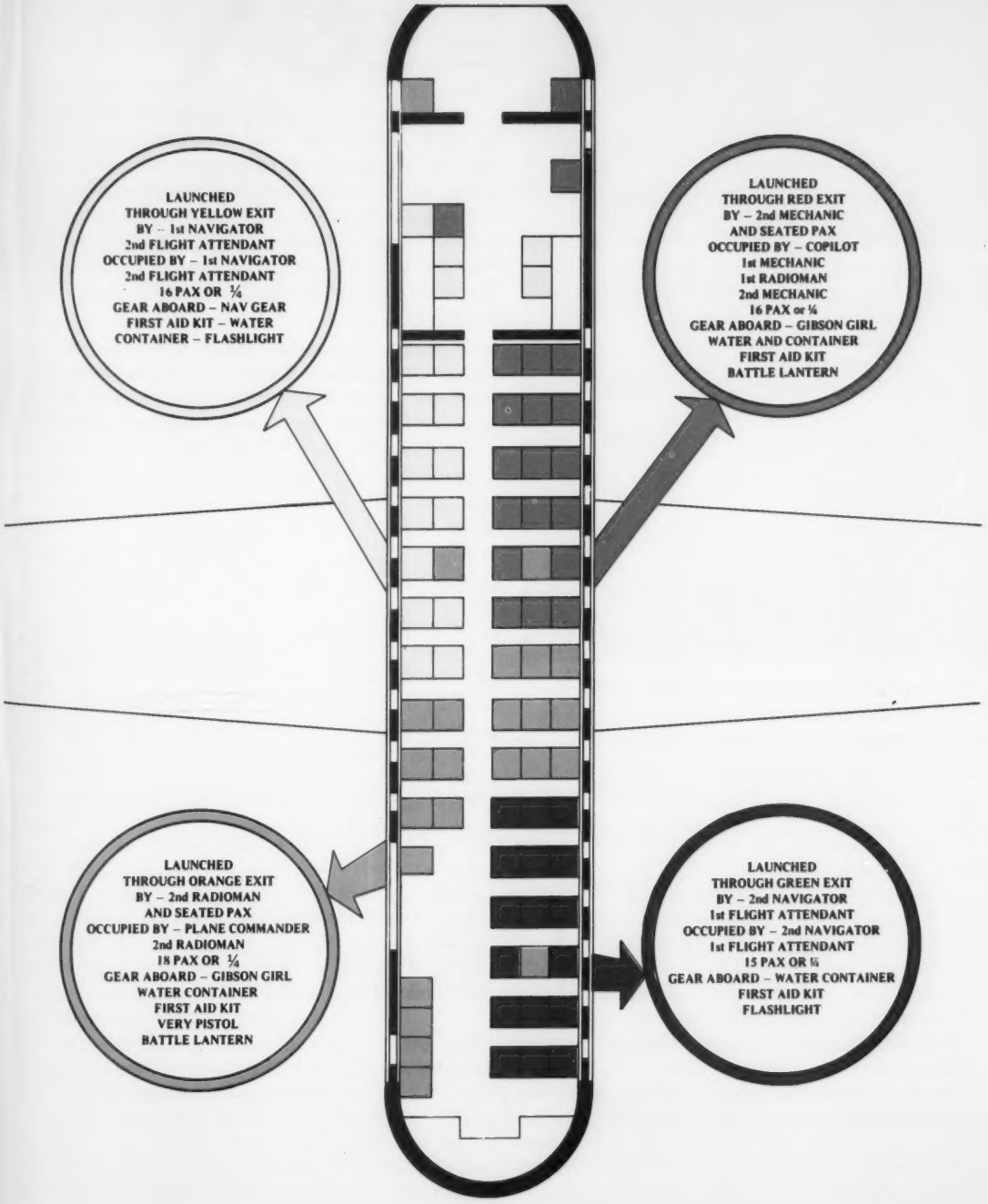
"May I have your attention please:

Prior to all overwater flights, we are required by OPNAV Instructions to familiarize you with procedures to be followed in the unlikely event of a water landing. If ditching does become necessary, you will be advised to prepare for this emergency by the pilot over the public address system, or by word of mouth by a crewmember. Please follow instructions explicitly.

"Try to bear in mind the following information if we have to ditch:

1. Your lifejacket is located in the pocket on the back of the seat directly in front of you.
2. We have special lifejackets aboard for children (if appropriate).
3. (Demonstrate) Don your lifejacket and adjust it.
4. (Demonstrate) To inflate jacket, pull down on the cords of the CO_2 cartridge. If this fails, use the oral inflation tube by blowing into it. However, do not inflate the jacket until after you have exited the aircraft, as it may impede your exit or be damaged while leaving. On the jacket, you will find a flashlight for night signaling, two (2) dye markers and (2) shark chaser packets. Do not use dye marker and shark chaser together as they become ineffective. There are two (2) day and night flares for signaling ships or aircraft; the night flares have raised edges on the ends.
5. Remove neckties, neckerchiefs, glasses, and any sharp objects from your pockets.
6. Assume ditching position by fastening seatbelts, securing seat in forward position, and bracing firmly against seat. Raise arms over shoulders, gripping the top of the headrest. Hold elbows firmly against head.
7. Remain seated until aircraft comes to a complete stop. Two (2) or more impacts are expected, the second being the more severe.
8. Leave the aircraft through the exit assigned.
9. Slide or step into the raft. *Don't jump.*
10. There is/are one/two (1)/(2) twenty-man liferaft(s), one (1) twelve-man raft, one Gibson Girl emergency radio, and enough rations for all aboard.
11. Certain passengers will be designated to aid the crew with the equipment.
12. Are there any questions?"

Fig. 2



Liferaft Information
Fig. 3

Continued

equipment requirements under certain conditions (para 701 b).

Whenever possible, passengers should be instructed beforehand on how to approach and board the aircraft and how to deplane safely. For example, someone accustomed to approaching and leaving a helicopter from the front may do the same thing, without thinking, with a COD. (This is a good example of the phenomenon called "habit pattern transference.")

If you think this last is elementary, consider the following: At about 0200, a C-54 pulled onto the parking ramp of a major air station. No lineman appeared to direct the aircraft, so the pilot, after a short conversation with ground control, picked his own spot and shut down.

A cabin attendant went down the aircraft's ladder to get the boarding steps. He walked through the arc of No. 1 and No. 2 props just as the pilot hit the starter button to turn the No. 2 prop from parallel to vertical. The cabin attendant's timing was perfect. The prop blade that had been in his way swung straight down as he walked through; and he merrily went about his business, completely oblivious to everything around him.

The quiet of the night was shattered by the pilot's on-the-spot lecture, which was heard by the cabin attendant, 30 passengers and crew, and by one or two of the duty section – not really asleep, just inside the line shack.

If a bona-fide crewman does something stupid like that, imagine how much more important it is NOT to leave unknowing passengers to their own devices.

Fleet Source

Several squadrons were contacted to learn what procedures were used to brief the passengers they carry daily during the ordinary course of events. The Commanding Officers of VR-1 and VRC-40 each designated his appropriate division officer (air crew training) and crew evaluators to "show and tell" APPROACH how the pros do it.

Each of the individuals interviewed agreed that passengers should be prebriefed in a suitable area where the noise level is low and where audio-visual aids (VRC-40) can be used to complement the spiel of the briefer. Each one pointed out that a handout (placard) with instructions printed on one side and a schematic of the cabin with exits and escape routes depicted on the other (for passengers to read in the aircraft) is desired. The illustrations with this article need no further explanation.

A placard, if available, should be a satisfactory briefing aid once the passenger is aboard, *providing the crew chief ensures that belts and harnesses are secured, passenger's survival gear is worn correctly, and belt release is shown.*

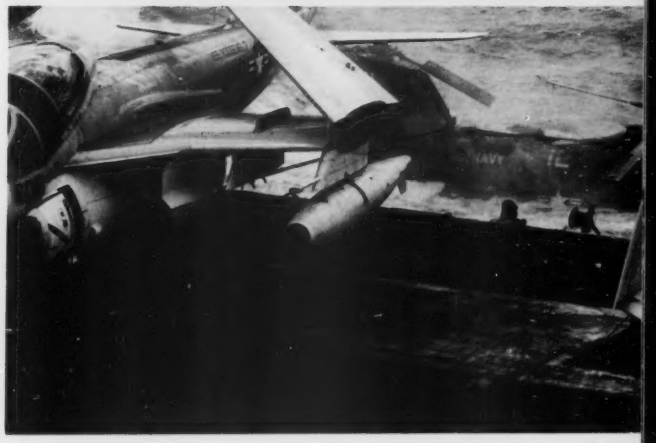
Squadrons and stations whose aircraft carry passengers, even those who do so only occasionally, should ensure that adequate briefings for their passengers are conducted. NATOPS does not exempt the operator of any model from the passenger briefing requirements.

COMNAVSAFECEN is working with other commands to produce audio-visual passenger briefing aids for various aircraft – similar to those in use for the C-1. Simultaneously, investigation of a standard placard which can be adapted for use in any aircraft is under way. Readers are asked to send a copy of any locally prepared handout to COMNAVSAFECEN (Safety Education Department) for consideration in standardization of format and content. ◄

Why Send a Safety UR?

OPNAVINST 4790.2, Vol III, Chapter 8, outlines the circumstances which are considered to be safety related. Whenever a situation arises in which these circumstances may possibly apply – fill out the UR format, then turn it in for review and release. Who knows, your UR may be just the one which helps resolve a growing and particularly stubborn maintenance problem.

73 SECONDS



THE DIFFERENCE between a safe landing and a crash can be a short delay at destination. Let's see how true this was for an H-46 crew one afternoon.

The crew was doing what comes naturally with the *Sea Knight* – VertRep. The helicopter and first crew flew over 5 hours of continuous VertRep during the morning, and few difficulties of any kind had been experienced. After a stop to refuel and change crews, the relief crew launched to continue VertRep. The aircraft had been thoroughly preflighted before the afternoon takeoff.

An hour and a half into the flight, the pilot landed aboard ship to pick up a CasRep (casualty report) part for a carrier. He took off with the part and, upon arriving at the carrier, was requested to orbit until another helicopter had lifted.

The HAC was cleared to begin his approach. At about 50 knots, 100 yards astern, 100 yards to port, and 100 feet altitude, he lost his No. 2 engine (orange flames were seen coming from the exhaust). He quickly secured his PMS (power management system) and activated his ETS (emergency throttle system). A zero airspeed water landing was made. When the pilot lowered the collective, his turns built back up to 102 percent. After a single-engine takeoff, the helo was hover checked and cleared by Pri-Fly to land on No. 2 elevator. *He never made it.*

Abeam the elevator, No. 1 engine quit – 73 seconds after No. 2. The aircraft crashed into the water with about 5-10 knots forward speed. After a hard landing and with low RPM, the blades struck the fuselage and broke off. The aircraft rolled over slowly and sank in deep water.

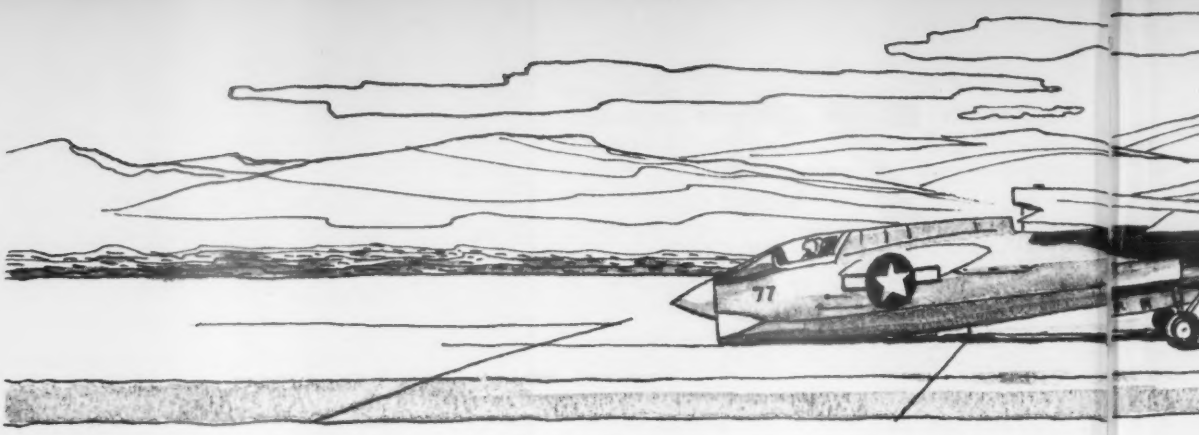
The crew was quickly rescued by a helicopter in trail and delivered onboard the carrier.

The rescue helo crew had noticed yellow-white flames, and what appeared to be turbine blades, spewing from No. 1 engine just before it quit.

At the time of the accident, the aircraft fuel gages indicated 350 pounds each. A fuel sample had been taken prior to refueling and checked OK by both pilots. After the accident, another fuel sample was taken aboard ship and again checked OK. The mishap board concluded the No. 1 engine failed from probable overtemperature conditions (the T_5 rose to about 760°C for over a minute); however, the board also pointed out there could have been a fuel control malfunction, an ETS problem, or internal FOD.

Three days previously, in the same helo, a similar mishap had occurred. After takeoff, the No. 1 engine T_5 momentarily indicated about 40°C higher temperature than No. 2. Fifteen minutes into the flight, the No. 1 engine failed, belching orange flames; but the flames went out when the throttle was retarded. The pilot also landed in the water, jettisoned fuel, and took off again. The No. 1 engine was changed. The No. 2 engine was not downed for overtemperature conditions, even though T_5 had gone to 680°C on the single-engine takeoff. However, the engine was given a complete visual inspection.

One highlight of the accident was the quick helo evacuation by the crew and the rapid response of SAR units. For example, the crew had abandoned the stricken helicopter before it rolled inverted, and even though they were picked up by another helo, PRATT (DLG-13) had a motor whaleboat in the water – ready for action.



Crusader Can-Do

The *Crusader* pilot didn't recycle the gear again because his wingman reported that the nose gear doors appeared damaged and jammed against the nose strut.

AN F-8 had launched from a CVA for a BARCAP mission. After raising his gear handle, the pilot noticed an unsafe nose gear. He slowed and recycled the gear *one time.* With all three indicating up and locked, he continued to rendezvous.

After his wingman had reported the damaged gear, the pilot diverted to a shore base. He requested, in advance, that arresting wires be removed from one of the parallel runways.

An attempt to jar the nose gear down by making a power-on touch-and-go failed to lock the gear in place. He then set the bird up for a minimum-sink-rate final.

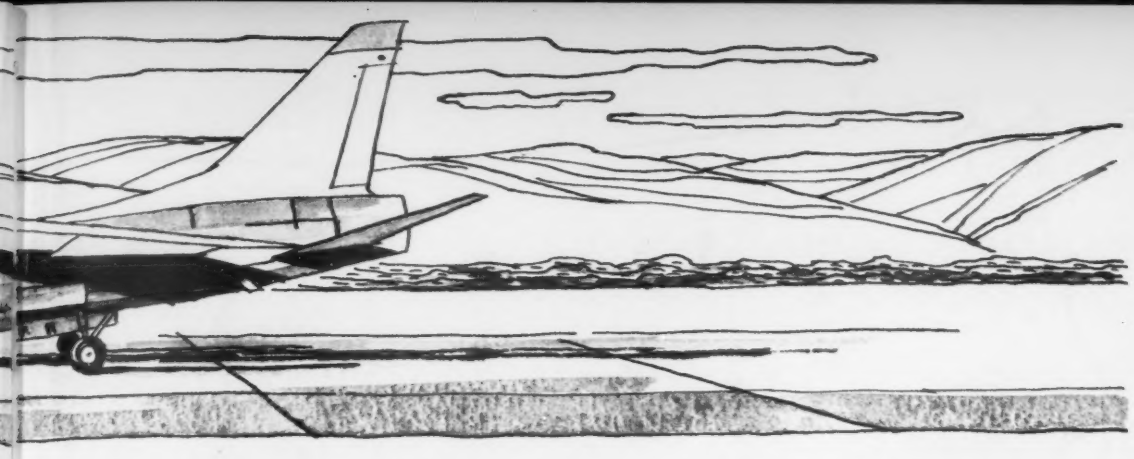
Upon touchdown, he brought the power to idle and secured the engine. As decreasing airspeed lessened the effectiveness of the UHT, he lowered the nose to the runway. The nose gear collapsed. When the aircraft stopped, the pilot exited, uninjured. Damage to the aircraft was minor (see photo).

The cause of this accident was maintenance error. Early on the morning preceding the mishap, night-check had removed the nose strut to correct a nose gear steering discrepancy. Unable to complete the work prior to the day shift, they were relieved of the task by oncoming personnel. When the nose gear steering discrepancy was corrected, the nose strut was replaced – but the retracting link was not attached to the torque tube. After the mishap, personnel who had replaced the strut recalled the oversight and admitted failing to satisfactorily complete the task by not conducting a dropcheck of the nose gear and by not having a proper quality assurance inspection of the finished work.

The major portion of the work was completed by an AMS1 who had proven himself to be an extremely competent worker and an invaluable asset to the squadron. He was assisted by a very capable AMS2. In this case, however, they took a shortcut in required procedures, deviated from MIM, and dispensed with the required dropcheck to get the aircraft UP as expeditiously as possible. Removal and reinstallation of the nose gear strut required a quality assurance inspection by a CDI (collateral duty inspector). The only two CDIs in the airframes division, however, were the first and second class petty officers who did the job. The AMS1 performed the inspection himself and failed to detect the disconnected retracting link.

The maintenance officer said of the AMS1:

"He is a highly competent and well-motivated first class petty officer. This job is atypical of the work normally produced by this man and is the result of over-fatigue. He was completing an 18-hour workday and was overtired. Through his unflagging and dedicated efforts to provide the aircraft availability needed to meet



the flight schedule, he frequently works many extra hours. In this case, he had apparently overextended himself, and either through oversight or impaired judgment, failed to ensure the satisfactory checkout and inspection of the finished job."

This man's intentions were commendable and his efforts sincere, but the results present a classic example of how "can do" can do you in. In this case, combat requirements created extenuating circumstances; otherwise there is no excuse. ◄

Parachute Jumping Areas

ALL reported parachute jumping sites in the United States are listed in Part IIb of the FLIP Planning Document and in the Airman's Information Manual, Part 4, Graphic Notices and Supplemental Data. They are listed by state, and most sites give a bearing and distance from a VOR/VORTAC/TACAN, maximum altitude, and remarks, as required.

All reported jump sites listed in the Airman's Information Manual, nearly 400, are plotted by general location. This map is shown *only* to emphasize the large number of jump sites and the scope of the hazard. It *should not* be used for flight planning purposes.

25

To ensure proper clearance through a jump area (if you *must* go through or near) during its hours of operation, consult the above documents. Accurately plot each jump site along, and adjacent to, your planned flight path – and remain well clear.

Maximum drop altitudes range from a high of FL 400 to a low of 1250 feet AGL – so area restrictions may affect all aircraft.

Remember, those sites listed are only the "reported" parachute jumping areas – there could be more. So keep your eyes open.

Home Free

BIG MOTHER scooped the two-man F-4 crew out of the Tonkin Gulf to fly another day. Investigators of the material failure-caused aircraft loss said the pilot's and RIO's (radar intercept officer's) attention to survival procedures during training "without a doubt contributed immeasurably to their successful rescue."

"The entire SAR operation," an endorser to the investigation report commented, "could not have been executed more smoothly if it had been a planned exercise."

The *Phantom* had been on station during a routine BARCAP mission for 1.5 hours. While turning, the aircraft entered a flat right spin. Spin recovery techniques were unsuccessful. At 10,000 feet, the crew made one last assessment of the situation and decided it was time to go.

The RIO ejected at 7000 feet. Starting at 5200 feet, the pilot pulled the seatpan handle three times without success, then went to the face curtain and ejected at 4000 feet – still well within the seat's envelope.

Here are the RIO's and the pilot's accounts of events from ejection to rescue:

"Although 10,000 feet is a standard altitude to eject from when in a spin," the RIO writes, "I was still having a hard time convincing myself that we were in a spin. I thought I felt the yaw rate slow down for a second, and I hesitated. It's hard to tell if anything really was happening to bring us out of the spin, because as quickly as I thought something might happen, we were back to the same yaw rate.

"After this, I knew it was hopeless. I told the pilot I couldn't stay with it any longer. I grabbed the seatpan

ejection handle and pulled."

The RIO had always considered the seatpan handle as his primary means of ejection. Normally, he rides with his seat high so that his helmet is 1 or 2 inches from the canopy.

"As soon as I told myself I had to eject, my hands were right on the handle and pulling," he continues. "The first sensation I had was one of tumbling. For a split second, I worried about seat separation. Just as quickly, I was separated – there was no real jerk.

"As I became stabilized in the chute, I disconnected one side of my oxygen mask. Then I reached for the seatpan handle, found it immediately, and pulled."

Both the pilot and the RIO had removed their oxygen masks on station at FL 200 – a NATOPS violation. (Cabin altitude was 8000 feet. Hypoxia is not considered a factor contributing to the accident.) The RIO replaced his mask before ejecting, but the pilot did not.

"I looked down and saw that everything came out all right and that the raft was inflated. While I was looking at my gear, I saw the pilot's chute about 3000 to 4000 feet below me. I also saw the aircraft next to him in a nearly flat attitude and barely spinning with the drag chute streaming behind."

Resting for a second, the RIO started to break out his radio, then thought he'd better not take a chance on losing it when he hit the water.

"I reviewed everything I had left to do and figured I'd better inflate my Mk-3C. It worked perfectly.

"As I got closer to the water, I looked down and saw that it was 'coming up' pretty quickly. I fixed my eyes on the horizon and put my fingers under the koch fittings."

When his feet hit the water, he released his parachute and submerged 3 or 4 feet. Surfacing, he saw his raft off to the side. His parachute was not in sight.

"The water was very cold," he recalls. "I went over to my raft and was about to get in when I remembered I still had my seatpan on. I got rid of the seatpan, climbed into the raft, and just sat there for a second or two.

"By this time, I heard our flight leader overhead. I took out my PRC-90 to attempt contact but received no reply. I just sat there and watched him orbit my position. He was relieved shortly by an F-8. I then heard someone say over the radio, 'You have strangers inbound. You better arm up.' I assumed this was for the F-8 and thought they meant the junks which we had seen earlier in the flight."

Eventually the RIO contacted the F-8 pilot.

"My pilot then came up on his radio and said he was okay. It was obvious no one but the F-8 was reading us, so we talked freely over our radios. Although I didn't see him, he said he had me in sight. I didn't tell him about the junks which I thought would be coming in, but I kept a lookout for them.

"Eventually, the helo came in. At the time, I was talking to my pilot on the PRC-90. I could have jumped into the water away from my raft right then, but I wanted to take my time and put my radio away and get set up. The helo continued past me to pick up the pilot.

"By this time, I had my radio packed, and I jumped into the water. The water was so cold I got back into the raft. I figured I'd wait until the helo picked up the pilot.

"When the helo had him aboard, I again jumped into the water, put my helmet back on, and swam away from the raft. As the helo approached, I pulled the day end of the flare and put my visor down. Much to my dismay, the visor was badly cracked, so I put it back up. The

water/wind blast didn't bother me, however."

The RIO was hoisted to the helo in the horse collar.

Now, let's back up in time and see what the pilot has to say . . .

"The spin continued and continued. The only change was lessening of nose excursions above and below the horizon," he begins.

"At 10,000 feet, the RIO called the altitude, and I knew I had to get out. For a moment, I tried every conceivable stick and rudder position. No effect. The RIO ejected."

The pilot looked in the mirrors and saw the RIO was gone. He noted that the drag chute was streamed and sticking straight up behind the aircraft.

"I remember the altimeter going through 5200 feet. I pulled the seatpan firing handle three times – hard. It had come out of its seating, and I could feel it on the cable – it didn't work. Scared, I went for the curtain."

"Ejection was smooth. I tumbled, then the chute opened with a jerk. I looked up and checked the chute. It was okay. Then I looked down and saw the aircraft right below me. I hoped I wouldn't land in it. I also saw some debris and realized I would soon be in the water.

"I felt around for the risers and fittings, then remembered the raft. I had to fumble around awhile to find the right handle to get the raft out."

The pilot remembered the Mk-3C. He found a toggle with his right hand just as he entered the water and pulled it.

"It worked, and I popped to the surface. I was facing the chute which was still inflated but not pulling on me. It was easy to get rid of.

"I then inflated the left side of the Mk-3C. My raft was inflated and floating nearby. This surprised me, because I thought I had released it too late. I pulled it over to me, remembering to get rid of the top of the seatpan, and climbed in. This was not difficult at all."

Once inside the raft, he took his helmet off, had a drink of water, and began to inventory his survival gear.

"I noted that my keen watch was screwed up. Then I remembered my radio and got it out. I managed contact with my RIO. I could see him about 200 yards away.

"Both of us agreed not to shoot smoke flares because of the fishing fleet we'd seen earlier. The lead F-4 was overhead at about 2000 feet, but neither of us could contact him. Later, an F-8 relieved him, and we managed a few words with the pilot. He gave us little satisfaction as to how the SAR effort was progressing. Mostly, I just waited.

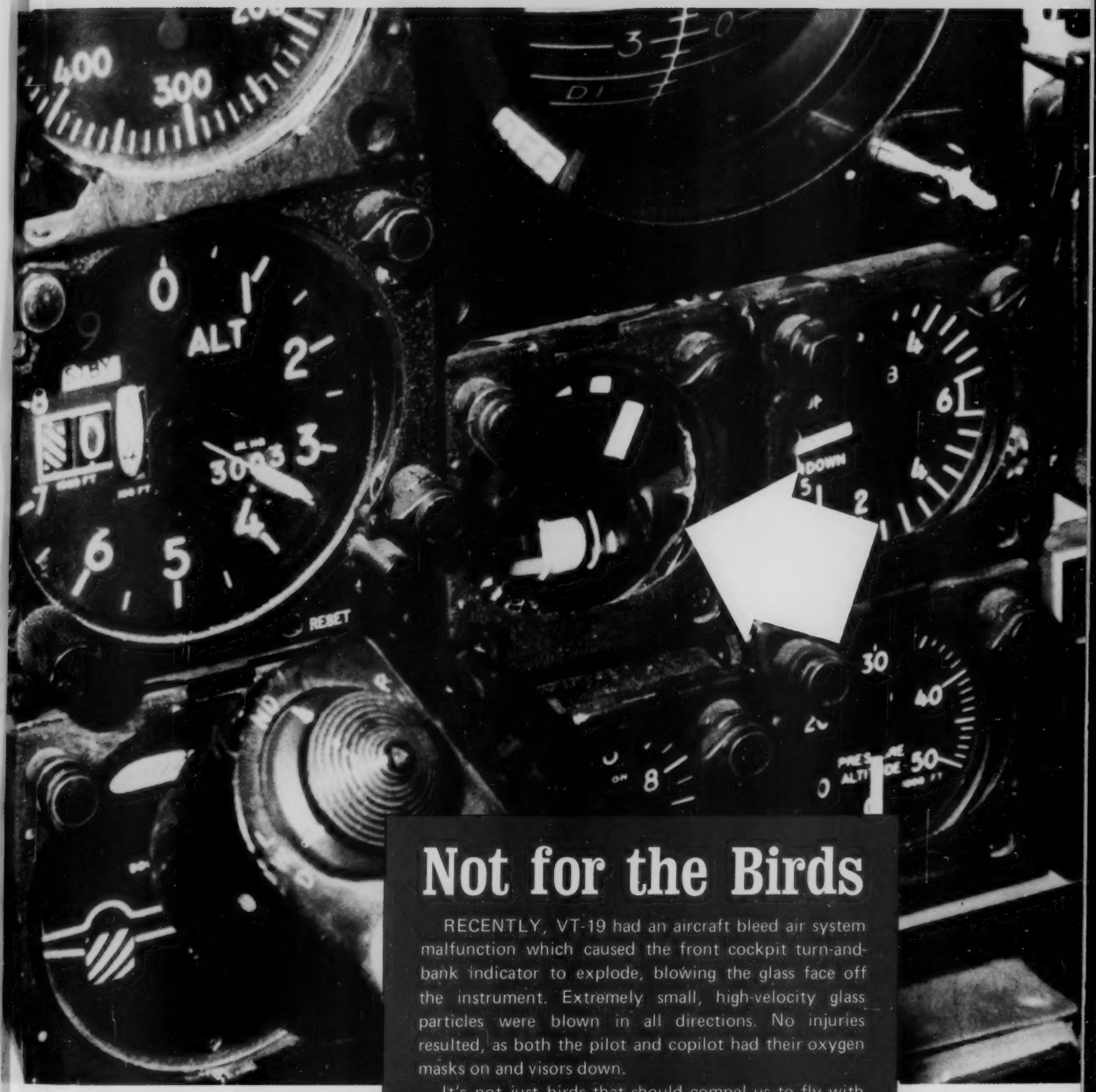
"The water was cold, and I was shaking hard before too long. I got quite cold before I was picked up."

To pass the time, the pilot looked for sharks and sea snakes and deployed some dye marker. After about 35 or 40 minutes, he saw *Big Mother* approaching.

"When *Big Mother* was about a mile away, I shot off a smoke signal. I did it too early, because it went out long before they arrived. Their course was downwind from me. They overflew my RIO and came to me first.

"I decided to forget a second smoke. I put on my helmet, jumped out of my raft, untied the connecting lanyard, and paddled about 10 feet to the waiting horse collar. I decided to use my snap ring, as it was an easy device. Attaching it was super-quick.

"They hoisted me aboard with no problem. About 2 minutes later, they had my RIO. I couldn't have asked more of *Big Mother*. We were home free." ◄



Not for the Birds

RECENTLY, VT-19 had an aircraft bleed air system malfunction which caused the front cockpit turn-and-bank indicator to explode, blowing the glass face off the instrument. Extremely small, high-velocity glass particles were blown in all directions. No injuries resulted, as both the pilot and copilot had their oxygen masks on and visors down.

It's not just birds that should compel us to fly with visors down. Refer to the accompanying photograph and note the close proximity of the stick. The pilot's gloves, in this instance, probably prevented him from suffering painful and disabling injuries to his hands.

CDR J. P. Holm
CO, VT-19
NAS Meridian, Miss.

Are You HavingT

Trouble Seeing?

By Joseph A. Marano, O. D.
Optometry Clinic, Medical Department,
NAS Alameda

ARE you having trouble seeing distant objects? . . . or the front instrument panel? . . . or the overhead panel?

Do you have to tilt your head backwards to look through the bottom portion of your bifocals to see the overhead panel instruments?

If any of these situations exist, it's time for you to have a complete visual examination.

Pilots under 37 years of age are usually able to obtain a satisfactory visual correction with eyeglasses that have single lens power. Older pilots may require bifocals or even trifocals.

With bifocals, one segment of the lens corrects for one distance, and the other segment corrects for a different distance. If the overhead panel is your visual problem, the small portion of the bifocal lens can be placed in the upper segment of the lens to correct for the distance of the overhead panel. The lower larger segment of the lens corrects for your distance vision.

If all areas are not clear and a single power lens or a bifocal lens doesn't clear up everything, perhaps you need a special type trifocal lens. This type of lens contains three segments. Again, each segment corrects for a different distance. The smaller upper and lower segments correct vision for the distances of the upper panel and lower instrument panel. The larger center section of the lens will correct for distant vision.

If eyeglasses are not properly adjusted to your face, the misalignment of the lenses could actually induce unwanted optical effects that cause visual problems. Unfortunately, when you wear an oxygen mask, there is presently no solution to this problem. The difficulty can be minimized, however, by having the adjustable nose pads of your aviation frames made wider. Take your oxygen mask with you when you have your frames adjusted.

If your glasses keep sliding down your face, have periodic adjustments made to the frames. If this doesn't help, temples that wrap around your ears may solve the problem. These temples are called comfort cable temples for aviation frames and riding bow temples for the standard plastic frames. If you wear a helmet, these temples are not too practical – they can't be removed easily with the helmet on.

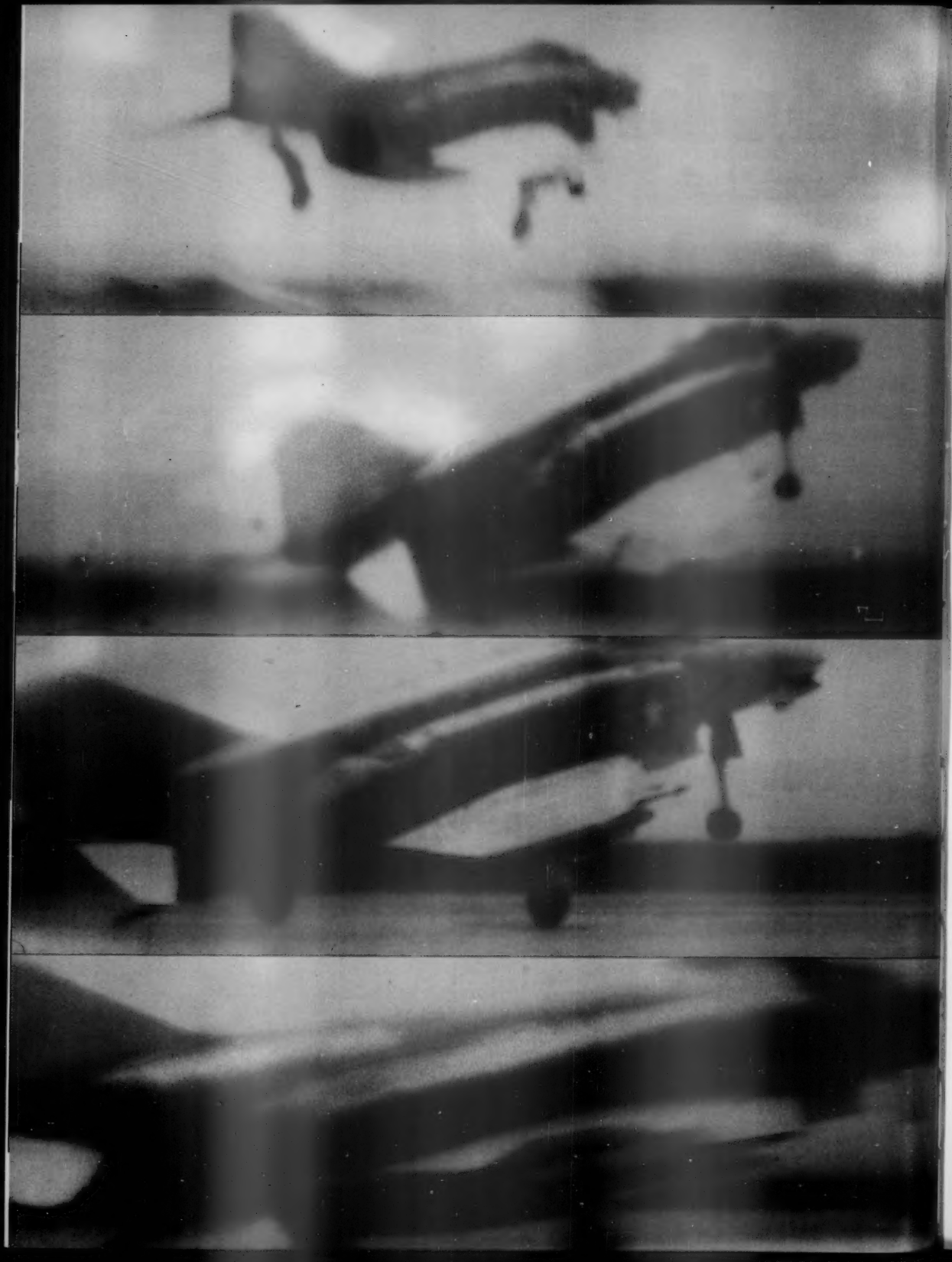
Sunglasses absorb about 80 percent of the light and should not be worn at night.

Scratched lenses interfere with vision, and care must be taken to prevent such scratching. Always use a case when carrying your glasses in pockets. Many of the military eyeglasses are now made of plastic, especially those for aviation. These lightweight impact-resistant lenses scratch much easier than glass lenses. They should be washed with soap and water and dried with a soft cloth or facial tissue. *Coarse tissues and silicone-treated tissues should never be used on plastic lenses.* Never place any lens on a hard surface. Hard surfaces will scratch both glass and plastic.

Checklist for good vision:

- If you have any difficulty seeing, either in or out of the aircraft, have a complete visual examination.
- If you are over 36, accurately measure and record the distance from your eyes to the overhead panel and to the front instrument panel. Your examiner needs this information.
- Have your frames adjusted periodically.
- If the frame keeps slipping down your nose, have the temples replaced with temples that wrap around your ears.
- Don't wear sunglasses at night.
- Protect your lenses from scratches. Don't place them on a hard surface, and keep them in a protective case when you carry them in your pocket.
- Don't use silicone-treated tissues or coarse materials on plastic lenses.

A VR-30 pilot in the cockpit of a C-131 tries to see the overhead instrument panel through the bottom of his bifocals. The ideal solution is to have the bifocal segment in the upper portion of the lenses.



"The pilot's flying skills may have been dulled by 17 days of flying inactivity during the ship's transit to CONUS." – AAR endorsement

At an altitude of 15 feet

Gravity Took Over

AN F-4B, manned by a highly experienced crew, was to be flown from a CVA (returning from WestPac) to the beach. The flight was thoroughly briefed and launched as scheduled. After about an hour and a half, the *Phantom's* utility hydraulic system failed. This emergency had been specifically discussed during the brief, and the aircrew elected to continue.

They reviewed procedures for emergency actuation of gear and flaps and decided on the type of approach to be made at destination. The pilot requested special handling from ARTCC which included a climb from FL 250 to 370 to conserve fuel. An idle descent was commenced at 60 miles, and at 20 miles, passing 14,000 feet, the pilot canceled IFR.

The tower was advised of the hydraulic failure as the *Phantom* crew requested downwind entry for an arrested landing. Passing 4000 feet, about 10 miles out, the pilot pneumatically lowered the gear.

As he pneumatically lowered the flaps, he was forced to hold right stick to compensate for, what appeared to be, an assymmetrical flap condition. The RIO visually checked the flaps and stated that the port outboard leading edge flap had failed to extend. This correlated with a leading edge flap barberpole.

The lateral control problem disappeared about a minute later. The RIO then visually sighted all leading edge flaps UP. Both the pilot and RIO, however, believed the trailing edge flaps to be at one-half (in reality, they were UP).

The first approach was commenced at 19 units AOA (angle-of-attack), an indicated airspeed of 185 knots, with a fuel state of 2000 lbs. There was no LSO on station.

Due to the sluggishness of the aircraft and the seemingly high airspeed abeam, the pilot decided to perform an AOA versus airspeed check and flew the aircraft within the range of 17 to 22 units for a few moments. Both crewmen concluded that the angle-of-attack was accurate, and the approach was continued at 19 units.

Noting that an overshoot situation was developing, the pilot elected to discontinue this first approach. The second approach was commenced from slightly wider abeam. The F-4 rolled wings level on final at 19 units. The pilot attempted to fly the aircraft to a position 400-500 feet short of the arresting gear and to hold the stick "in position" to help keep the hook on the runway.

On touchdown, the *Phantom* rotated to about 30 degrees nose-high, engaged the arresting gear, and became airborne. At an altitude of about 15 feet gravity took over.

The *Phantom* impacted the runway in a 5-degree nose-low, 15-degree left wing-down attitude about 8 feet left of centerline. Damage exceeded $100,000.

The engines were secured, and there was no fire. Crash and rescue personnel were on the scene immediately. The pilot and RIO exited the aircraft, uninjured.

According to the mishap board, the pilot is an experienced and extremely competent aviator with over 2200 hours total flight time. Analysis of the accident shows that the pilot was very professional in his handling of a situation which deteriorated from onset of the utility hydraulic failure. Although a contributing cause of this accident is certainly the combined failure of the utility hydraulic system and the subsequent failure of the flaps to extend pneumatically, photographs of the accident pinpoint an area where responsibility must be placed on the pilot.

The position of the stabilator from the final moments of the approach until arrestment indicates excessive back stick applied at touchdown. The pilot stated that he held the stick "in position" to ensure that the hook

The graphic results of a very hard landing.

remained on the runway. The board felt that he inadvertently applied back stick pressure at touchdown. This, coupled with the increased stabilator effectiveness in this configuration and high approach speed, caused the aircraft to become airborne.

The mishap board listed the absence of an LSO to monitor the two approaches as a contributing factor. Although, according to the board, it would be unrealistic to expect an LSO to be available on a Sunday afternoon with such short notice, certainly his presence would have been a positive asset. Specifically, the LSO could have confirmed the aircraft configuration, attitude, and airspeed, with a high probability of preventing the accident.

The mishap board noted that there was a violation of NATOPS for a shortfield arrestment. NATOPS states that longitudinal control should remain neutral until engagement. The board felt that the pilot applied sufficient back stick, with the aircraft in a no-flap configuration, for the aircraft to rotate excessively nose-high.

The board noted also that more definitive information as to angle-of-attack, airspeed, and gross weight for a no-flap approach should be included in the NATOPS manual. Such information at this time is virtually nonexistent in either NATOPS or the pocket checklist. The commanding officer, in his endorsement, concurred that no-flap landings deserve more discussion in NATOPS and noted that a NATOPS change recommendation will be submitted.

As to positioning of an LSO, the fleet air commander noted in his endorsement that the instruction promulgating host unit duties and responsibilities attendant to returning units and visiting units has been revised. The revision of this instruction requires that host units provide a qualified aviator, current in type, to be in the tower during fly-ins. His responsibilities include NATOPS assistance to those aircrews who may encounter inflight difficulties prior to entering the traffic pattern. Additionally, the fleet air commander noted that there will be a qualified-in-type LSO at NAS Operations available for quick-reaction to minimize the possibility of future accidents of this nature. (NATOPS change forthcoming. – *Ed.*) ◄

Professional Aviator or JUST a Pilot

By an "Old Timer"

WHEN aeronautical engineers came up with a variable pitch prop, way back when, little did they realize that in improving aircraft performance they might be over-taxing the mental capacity of the pilot. How? Well, it meant that for a reduction of power, throttles had to lead the props; and for increase in power, props had to lead the throttles. Pilots suddenly had two, sequenced steps to perform.

Now, some pilots, like Pavlov's dog, seemed unable to think it through in the logical sequence, so they added it to the checklist. Then suddenly it dawned on some that pilots couldn't *read* either. By the time this became evident, however, the engineers refused to return to fixed-pitch props. They believed that with education, training, and good habits, pilots would learn and subsequently perform correctly.

Discounting the mechanical, hydraulic, and electrical malfunctions which account for 0.56 percent of overboosts, the rest are pilot/copilot/flight engineer induced. (Any one or all three.) It isn't too farfetched to believe that in most aircraft, with two or more people within easy reach of the gear handle, props, and go levers, that increasing RPM before the throttles on a waveoff would be automatic. Yet, it isn't. I guess it has something to do with the passing of old Navy traditions.

We keep hearing that today's pilots are younger, smarter, and better educated than the pilots of WW II and Korean vintage. I wonder. For example, you don't hear any more about pilots or mechs standing for a round of cheer when causing a backfire on start. You don't hear much about pilots having to contribute to the coffee mess for failure to conduct a preflight or use the checklist. You don't even hear of penalties because the navigator forgot some of his equipment or missed an ETA by more than 3 minutes. What's happened to the good old traditions?

In case you think we're blowing smoke, there were three instances within a 2-week period last quarter when pilots under the same circumstance, a waveoff, rammed the throttles to the firewall before increasing prop pitch. All three involved aircraft with copilots (two had flight engineers).

Let's pass quickly over the obvious – that the landing checklist had not been completed. (That was an automatic fine.) None of the reports indicated any kind of emergency, rising terrain, or sudden realization the gear was up, vice down. In any prop aircraft, there is instant response when a TPC/PPC/CAPC increases power from 20-25 inches MAP (descending) to 35-40 inches MAP (climbing). What do you suppose was their hurry to go *full bore*? They still had plenty of time to do whatever the pilot wanted to do without the risk of rocketing cylinders through the cowling. (Readers are reminded that we're only addressing pilots who do not complete the landing checklist which includes . . . PROPS, full low.)

A professional aviator is one who remains ahead of the aircraft – all the time. He is one who is seldom surprised and never shook. He thinks ahead and has a plan for any eventuality. He wastes little time and knows his aircraft systems. When he's the boss of a crew, it's one of the best. A pilot is someone who also flies. ◄

Gibson Girl Kite Electrocutes PO

A DISCARDED Gibson Girl kite, reportedly found in a Dempster Dumpster, caused the finder's death by electrocution. The box kite is standard equipment for use with the Gibson Girl AN/CRT-3 emergency radio carried aboard naval vessels and certain naval aircraft. The kite, which has a metal frame, is used to raise the radio antenna – a copper wire.

The PO took the kite home with him and flew it in the parking lot outside his apartment. He was wearing wet shoes and standing in an area which was wet from rainfall earlier in the day. A witness heard a "loud crack" and saw the PO lying on the ground. The kite had apparently struck a high-tension line.

The investigating officer states that during decommissionings, some Gibson Girl kites have been turned in to salvage, making them available for purchase by the general public. He recommends that Gibson Girl kites be destroyed instead of being disposed of via Dempster Dumpster or salvage where they may pass into the hands of individuals unaware of the danger of flying such kites.

(Commands are urged to take steps to prevent "liberation" of such items before they're disposed of. – Ed.)

Beacon Interference

"EXCESSIVE" was the term investigators used to describe the time survivors of a night helo ditching spent in the water before rescue.

Observers interpreted a "green flare" (later thought to have been a meteorite), the survivors' 25 red pencil flares, and their strobe lights as submarine distress signals. Survivors were in the water 1 hour and 25 minutes before one of them was spotted by the reflective tape on his helmet.

If the one AN/URT-33 beacon the survivors tried had worked, it would have "clarified the meaning of the distress signals," the accident report states. The radio batteries were all right, but the radio had a dead transistor. A second factor was that the survivors assumed the radio was functioning normally and did not activate any of the other three available radios for fear of producing signal interference.

Safety Center comment: NAVAIRSYSCOM advises that no significant signal interference will result if two or more URT-33 beacons are operating simultaneously. When more than one beacon is available, each should be operated consecutively for 15 minutes at a time. This will conserve battery life and increase the odds in your favor.

Eyes Saved

THE PILOT saw the birds just before they hit. Evasive action was impossible.

The TA-4J was flying at 400 knots at 3000 feet when it collided with several birds. One bird shattered the center windscreen panel. Another entered the cockpit through the upper portion of the canopy. In spite of the protection

offered by his visor and oxygen mask, the occupant of the rear cockpit was temporarily incapacitated by flying Plexiglas and windblast.

The pilot slowflighted the aircraft, and his wingman checked it visually. Landing was uneventful.

"The rear cockpit occupant received minimal injury as a result of this mishap," the squadron report states, "whereas failure to follow the precautions of visor down and oxygen mask on could easily have resulted in serious injury and near certain loss of eyesight."

Body Block

A QUICK-THINKING crewman tackled a chief petty officer being blown across the flight deck to keep him from being slammed into a parked aircraft. The fall dislocated the chief's left shoulder, but the medics were able to put it back in place. He is presumably none the worse for his experience. Perhaps wiser.

The first launch of the day was about to begin. Aircraft had started engines. Those scheduled for the first cat shots were easing toward the shuttles.

Intending to attract the attention of one of his men on the flight deck, the chief stepped out from behind the island. He took care to stay out of the way of an A-6 moving slowly forward.

At this point, the chief's attention became fixed on the man he wanted. A few more steps and he was blasted by an A-7 turning on his immediate right. He tried to back up but lost his balance.

Slipping on the wet deck, he was propelled into the main blast of another A-7, 60 feet away. He fell left, directly into the jet blast of the A-6 which had passed moments before. This violently thrust him into an uncontrolled run aft, toward a parked F-4. *Ten feet from the Phantom,* the alert maintenance man tackled him.

"How could such a thing happen to someone with so much flight deck experience?" the investigating flight surgeon asks. Here is his thoughtful analysis:

"Again, it is my duty to make comments, analyze, and submit recommendations on a flight deck incident involving a man blown down by jet blast. This is the fourth such incident in the past 2 weeks . . . Again, I ask, 'Why?'

"The previous cases involved men inexperienced with flight deck operations. Preoccupation with duties can be partially incriminated for their failure to be constantly aware of approaching hazards. They did not keep up a constant scan.

"This case, however, involves a man who has been on flight decks for years. He is acquainted with every detail of flight deck operations. Nevertheless, he, too, fell victim to briefly concentrating on one aspect of the deck at the expense of the others and walked into a jet blast.

"The chief admits the accident was due to his own carelessness. This is not to say, however, that unusual conditions did not exist. As is the case with the first launch of the day, there were many more aircraft moving about the deck than usual. It was a large launch, so many planes were turning. Also, the deck was wet in spots from a rain the previous night, and winds were gusty.

"How could this incident have been prevented?

"As I've stated in other reports, reducing the number of men exposed to the hazards of the flight deck must be accomplished. Doing nonurgent maintenance on aircraft on the flight deck during launches and recoveries is placing more men on the flight deck than is necessary. When the air boss announces, 'All unnecessary personnel clear the flight deck and catwalks,' all those not absolutely essential for the launch and recovery should get off the flight deck. But I know from observation that unnecessary personnel still loiter around.

"One additional item comes to mind. If a more efficient means of communication between men on the flight deck were devised, one man would not have to walk half the length of the deck to get another's attention.

"As each one of these incidents is publicized," the flight surgeon concludes, "I am hopeful that other men will take heed and learn by someone else's mistake. A continuing and vigorous training program of flight deck safety for flight deck personnel hopefully will reduce this type of accident to a bare minimum."

(Improved flight deck communications and control is one of the many recommendations published in a CASS [Carrier Aircraft Support Study] done under contract for the Naval Air Systems Command. Instant solutions we can't promise, but a very serious look is being taken at this problem area. – Ed.) ◄

By the way Boss, what ever happened to pinning a wayward gear, "in the gear." — Ed.

BARBERPOLE

Both main landing gear indicated DOWN and locked, but the nose gear remained barberpoled.

The gear handle was re-cycled again with the same results: both mains indicated DOWN with the nose gear barberpoled. Emergency procedures were performed and culminated with the gear being "blown" down. The indicator was still showing an unsafe nose gear.

A FLY-BY was made past the ship. Both the air officer and LSO informed the crew that all gear appeared to be down and locked. The subsequent approach resulted in a normal arrestment, rollout, and rollback. The hook was raised and nosewheel steering engaged. As the aircraft started forward, the nose gear collapsed (see photo).

A malfunction of one or more of the nose gear components was obviously the cause for the gear's failing to lock down. The malfunctioning component remains undetermined, but the aircraft has been transferred to an overhaul depot for repair and further investigation. Suspects are the nose gear actuator, priority valves, and the downlock springs.

Regardless, squadron personnel had ample warning prior to the accident that *something* was wrong. *During the 5 months preceding the accident, the nose gear had malfunctioned nine times, including four times during the previous week.* In each instance, the landing gear was dropchecked through multiple cycles with all indications normal. Maintenance personnel had even attempted to simulate air loads on the gear by pushing aft during the down cycle. Qualified senior maintenance personnel, however, continued to place the aircraft in an UP status after maintenance had been performed. Similar maintenance had been performed before, but failed to correct the discrepancy.

The mishap board made one telling point. It stated: "Squadron quality assurance personnel should never have allowed the aircraft to have accumulated so many discrepancies on so critical a system as the landing gear. When maintenance functions were repeated and the discrepancies continued to occur, outside technical assistance should have been requested."

The board also noted that, "Although the ship's personnel did not cause the accident, they might have prevented the nose gear from collapsing by informing the aircraft handling officer that an aircraft with an unsafe nose gear indication would be recovering. Squadron maintenance personnel, if informed, could have used a lever to force the nose gear drag brace to the overcenter position."

This accident clearly indicates the need for supervisory personnel, all the way up, to be constantly alert for the repeat gripe symptoms which too often herald an approaching accident.

Zunis from Heaven

By LT Roger L. Johnson
HC-1 Det 2 ASO

DURING a recent WestPac deployment, I had a most sobering experience. I was flying planeguard in a UH-2A *Seasprite* one afternoon and waiting for the ship's bow to be cleared of aircraft so I could land. The OOD spotted some smoke about 5 miles on the starboard beam, and since there would be some delay in getting aboard anyway, the air boss asked us to investigate.

Arriving at the datum at 200 feet, I reported that there was nothing to be found and that I was returning.

At that very moment, I noticed a shadow on the water approaching my shadow at a very high speed. All my life I have been intrigued by airplanes, so I naturally looked up to see who our visitor was. What I saw was a *Phantom* at about 1000 feet which had just released several "objects" directly on top of us. The following events all occurred in the few seconds it took for the objects to reach the water.

My first impression was that the F-4 had also been directed to investigate the smoke sighting and that he was dropping smoke flares to mark the position. I told my copilot to look up, and we both saw the F-4 roll 90 degrees to port and then roll wings level again. It was at this moment that I realized the objects were zuni pods and that if we didn't do something quick and drastic, we would have them coming through our rotors. I rolled 90 degrees to starboard and dove 30 degrees nose-down for the water. As I pulled out of my dive at 20 feet and 100 knots, I looked back to see the rocket pods hit the water not more than 100 feet away, sending splashes well above our altitude.

Later, after a very serious breach of radio discipline on my part, we were told that the F-4 was from our sister carrier and was jettisoning unexpended ordnance before returning for recovery.

That fighter pilot had been directed to a "safe" area to drop his ordnance. He *almost* followed the proper drop procedures, in that he rolled over to visually check that the drop area was clear *after* he made his drop. I've often wondered what he thought when he saw his ordnance falling towards our helo. I must assume he thought we were all goners, because he never came back.

The only thing that saved our lives was spotting that shadow and looking up. Whew!

LIFELINE

COMMANDER, Naval Safety Center, announces the publication of Navy LIFELINE, the Navy Safety Journal. SAFETY REVIEW, published for many years by the Chief of Naval Material, and BIOENVIRONMENTAL SAFETY, our own Life Sciences Safety Review, were combined as a new publication. Thus, LIFELINE made its first appearance with the September-October issue and will appear bi-monthly as the Navy's information and education medium for environmental, recreational, and occupational safety.

LIFELINE, specifically, will emphasize the human factors in accident prevention, occupational health and safety, and safety-survival equipment. Through LIFELINE, the most up-to-date and accurate information available in these areas will be presented to those in management and supervisory capacities. Distribution will include addressees of both BIO and SAFETY REVIEW. Subscriptions will eventually be available through the Division of Public Documents, Government Printing Office.

One of the missions of the Naval Safety Center is to provide the Navy with the educational material necessary for the prosecution of a vigorous and effective command safety program. LIFELINE will be the main medium through which we hope to assist the supervisor and influence his thinking on the preservation and protection of lives and machines. Occasionally, articles will be written at the working level for direct extraction and reprinting by supervisors.

NAVSAFECEN is anxious to receive your thoughts and opinions. The ideas and imagination of our readers are too important not to be shared. Whether it be of technical, statistical, or general interest — write us:

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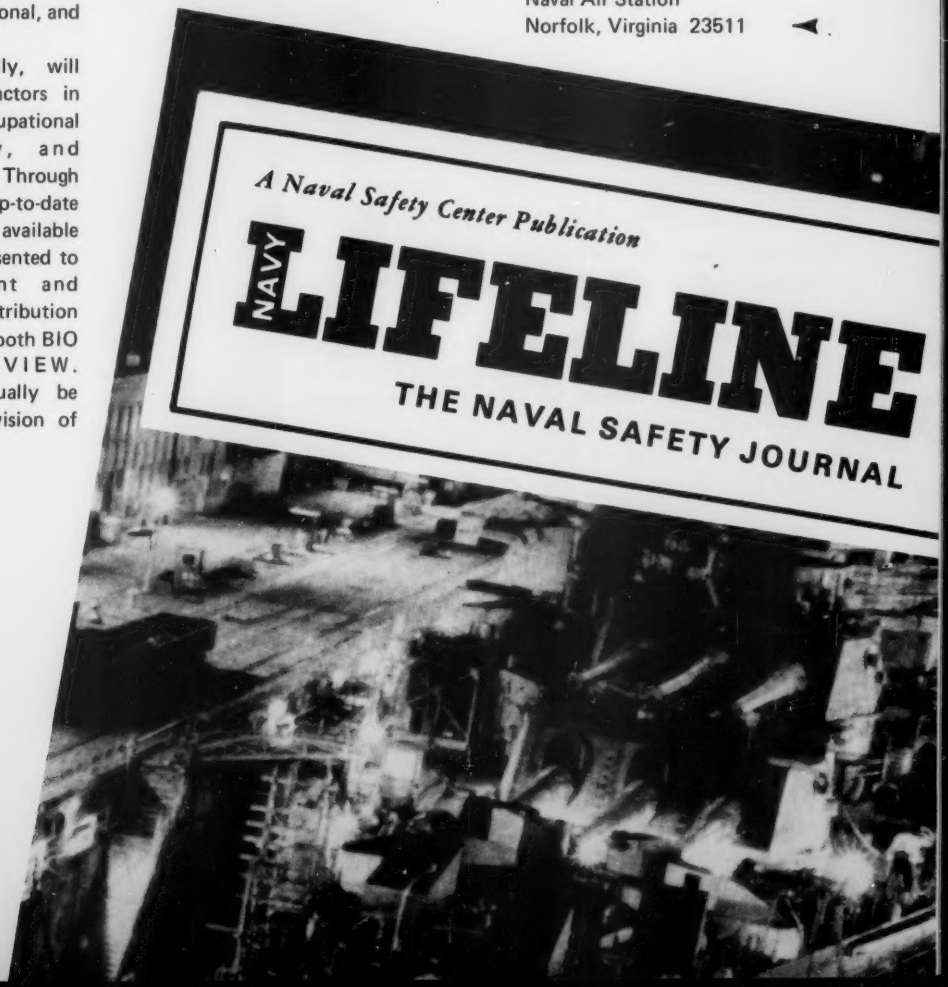


Color Me Green

or Why COs Get Gray

From the flight schedule:

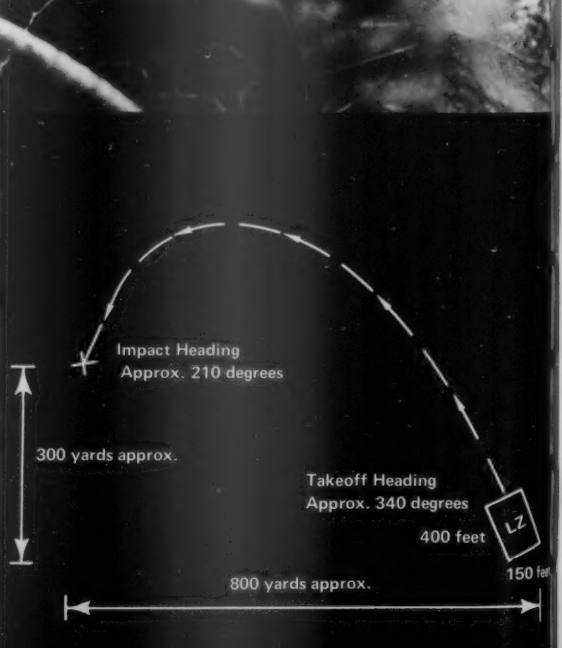
Event No.	Brief	ETD	ETR	Remarks
8-1	1200	1315	1615	CAL 5, 6

From the AAR:
Weather 30 ϕ 100 $\circledast$ 7 140/56/50//0112/992

THE TWO pilots, one an instructor and the other under training, took off on schedule, tooled around for 45 minutes or thereabouts, and then started the assigned CALs (confined area landings).

The first landing was uneventful. The copilot, who was flying the helicopter, lifted and began to climb out. At about 300 feet with 45 KIAS, the instructor pilot retarded the No. 2 engine condition lever to START – to simulate loss of an engine.

The copilot reacted immediately by simultaneously reducing airspeed and reciting the emergency procedures for single engine. As he did this, he raised the nose and applied some power causing the airspeed to bleed off to about 20 KIAS. Rotor RPM decreased to around 90 percent. The HAC tapped the copilot's airspeed indicator and cautioned him on ICS to watch the airspeed. The HAC then realized what a bind they were in, advanced No. 2 engine to FLY, and took control of the aircraft. To avoid high trees in front of him he banked left, but was unable to stop the descent



and flew into the shorter trees. All aboard survived the crash with only minor injuries.

Statements made by various members of the crew shed light on what happened. As the aircraft descended through 200 feet, with gages indicating 86 percent rotor RPM and 87 percent torque, the No. 2 engine was advanced to FLY – but time to recover had run out. Once again, an instructor pilot had permitted a PUI (pilot under instruction) to go too far before taking the controls.

The PUI, at the briefing session, had reported that the syllabus cards for the brief couldn't be found. Another pilot was asked, but he had no briefing cards for that flight either. The IP, seemingly unperturbed, said that they'd shoot some CALs, and he'd give pointers during the flight to correct the PUI.

During preflight two broken grounding wires, on either side of the sync shaft, were found, but the IP and crew chief OK'd them as not a downing gripe. The PUI lifted into a hover and reported "something" just didn't feel right. The IP took the controls, and said the helo was OK. After they broke hover, the crew chief came forward, noticed six circuit breakers OUT, and pushed them IN.

From the moment the brief began, to the accident, the IP appears to have been too casual, unconcerned, and complacent. The Mishap Board and several endorsers had a lot to say:

- Briefing was incomplete and sketchy.
- Challenge and reply checklist was not used for start or turnup.
- Unauthorized low-level flight/maneuvers were conducted during the 45 minute flight before the CALs.
- No apparent supervision existed prior to the flight to ensure that a proper NATOPS brief was conducted.
- The copilot was not properly notified of the simulated emergency.
- Single-engine emergency was *initiated* at the minimum recovery altitude.
- Weight and balance charts were not completed (the HAC didn't know two internal fuel tanks were installed).

Try this for size: The cause of this accident occurred some time – perhaps several years – before it actually happened. From the moment the HAC was scheduled for the flight and accepted the aircraft as UP, nothing could have prevented it.

Would you accept that? How say you all? ◄

Bravo Zulu

LTJG Richard B. Ross, USNR

ENTERING downwind for a VFR approach to Kirtland AFB, Albuquerque, New Mexico, LTJG Richard B. Ross, USNR, completed the landing checklist for his US-2D *Tracker*. As he approached the 180 degree position, No. 2 engine RPM dropped to 1000. Rapid visual inspection of the engine confirmed the propeller in full-feather position. LTJG Ross quickly pushed both propeller controls forward, raised the landing gear, selected one-third flaps, and declared an emergency.

To lessen the yaw that had developed due to asymmetrical loading and assist a smooth ball-in-the-center turn to center line, LTJG Ross reduced power on No. 1 engine. Soon after the power was set, he noticed No. 1 engine RPM decaying. While his crewmembers were pulling the autofeather circuit breakers, LTJG Ross pulled the No. 1 engine unfeather button and regained RPM. He then instructed his copilot to pull the No. 2 engine unfeather button, regaining RPM but losing it each time the button was released. Instructing his copilot to hold the button out, LTJG Ross achieved full RPM on both engines turning final. Dropping gear and flaps, he made an uneventful landing.

The Commanding Officer, Naval Air Station, North Island, in reporting this incident, noted that LTJG Ross has consistently demonstrated excellent airmanship and overall professionalism since being assigned to NAS North Island following his designation as a naval aviator.

The manner in which LTJG Ross reacted to this multiple emergency was outstanding.

Well Done!

Letters

Cooperation is doing with a smile what you have to do anyway.
Ace L.

Tell It Like It Is

Fleet Post Office – Having just read the accident report of this squadron's most recent operational accident, I was most surprised to note two obvious discrepancies:

(1) Statements indicate the aircraft involved had no discrepancies, when in fact there was a permanent "off" flag in the standby gyro, although the gyro appeared to function properly.

(2) The rear seat pilot was "written in" on the morning of the flight. He had recently returned to the squadron and needed flight time. The mishap board incorrectly stated that the flight and aircrews had been scheduled the previous evening.

Neither error directly affects the occurrence of the accident and probably would not alter the findings of the board. However, there appears to be a trend toward presenting a "clean" investigation in which all possibilities for the existence of any supervisory error are at least minimized. There is no present method of presenting a minority report or dissenting opinion following an accident, to my knowledge. Perhaps an unbiased member could be appointed to accident boards.

Name withheld

• As a matter of fact, there is a provision for ensuring that a disinterested member is on the board. The ISIC (Immediate Superior in Command) has the option of appointing the senior member of the board from his command or any unit under his command when he considers it appropriate. Nonetheless, your letter is most disturbing.

The heart of the Navy's accident prevention effort is its system of investigation and reporting of mishaps. There is substantial evidence that the Navy's program is understood and supported at all levels and that mishap boards almost always tell it like it is. Nevertheless, we do recognize the possibility of isolated cases wherein the facts are confused or inaccurate. Even isolated cases may adversely affect the Navy's safety program.

"Privileged Status" of mishap reports affords legal protection and is intended to ensure complete, factual, and candid reporting. It's the only way to go!

APPROACH welcomes letters from its readers. All letters should be signed though names will be withheld on request.

Address: APPROACH Editor, Naval Safety Center, NAS Norfolk, Va. 23511. Views expressed are those of the writers and do not imply endorsement by the Naval Safety Center.

Arcing Downwind

NAS Alameda, Calif. – Reference your July 1972 article on arcing downwind. I not only use this method on landing, but also on takeoff. I find it much more useful on takeoff, especially in A-3/A-4 type aircraft. I have more than 2000 hours in the A-3 and over 1000 hours in the A-4. I believe this method works.

R. S. Jackson
Commanding Officer
VAQ-135

Reel It All In

FPO, New York – We were returning from an ASWEX toward BOWEN (DE-1079), VFR at 500 feet and 90 knots. One small problem arose. We couldn't reel in the MAD. The circuit breakers, the reel power switch, and the in/out switch were cycled and recycled.

The ALT control on the radar altimeter was set to 500 feet. Below this altitude an automatic reel-in is begun. We descended, but no dice. Each time the system was set for retrieval, the RAWS functioned normally. The cable limit light was out, although earlier it had worked well. Also, the reel failure light didn't illuminate.

We notified BOWEN tower and altered course for the ship. We were advised of winds from 20 degrees port at 22 knots. Our fuel state was 580 pounds. We slowed the aircraft to 40 knots at 250 feet and slowly "walked" astern and starboard of the ship.

Waiting for some additional advice from the det O-in-C in the tower, we slowly eased the helicopter down to about 200 feet and were vectored over the deck. The MAD was carefully lowered and separated by the *cable cut.* An uneventful landing was then made.

I suggest that COMNAVAIRLANT "Benny Sugg" 7163 (equip each SH-2D with a shepherd's crook) be given favorable consideration. We have incorporated a change to MRCs 27B and 27B.1 which requires that the hydraulic actuator be serviced every 28 days.

LT C. P. Saviola, USNR
HSL-30

• Yankee ingenuity at work again! Chief John C. Byard (ADJC) of HSL-30 thought about the problem of a streamed MAD head that would not retract and came up with a simple, practical idea. He suggested, by way of the Benny Sugg program, that an emergency retrieving hook (shepherd's crook) be fabricated to reel in the cable and the MAD head whenever the hoist failed.

The beauty of his suggestion is that not only is safety enhanced by having a pilot avoid a hover between 150 and 200

FLIP Changes

THE DEFENSE Mapping Agency, St. Louis Air Force Station, Missouri, has notified the Naval Safety Center of the following changes to FLIP documents:

Worldwide Realignment of DOD FLIP Areas of Responsibility

The Africa and Southwest Asia (ASWA) DOD FLIP Enroute Charts 9 and 10, plus associated terminal areas, Enroute Supplement and Planning Data, and Instrument Approach Procedures were transferred to the Pacific and Southeast Asia (PSEA) FLIPS. The following ASWA FLIP issues were the last to contain Aeronautical Information for the area covered by ASWA Enroute Charts 9 and 10:

- DOD EASWA FLIP Planning Section II-B dated 17 June 1972.
- DOD EASWA FLIP Planning Section II dated 25 July 1972.
- DOD ASWA FLIP Enroute Supplement and Charts dated 16 August 1972.
- DOD ASWA FLIP Terminal Procedures dated 17 August 1972.

Effective with the above dates, all DOD FLIP users are requested to submit all aeronautical information changes, additions, and deletions for this area to Defense Mapping Agency, Aerospace Center, Flight Information Office-Pacific, APO, San Francisco 96553, Telephone 44-2100, AV 3310111. Message: DMACC FIOP, Hickam AFB, Hawaii. Requirements for user quantities should be forwarded well in advance IAW DOD Catalog of Aeronautical Charts and Flight Information Publications.

The following PSEA FLIP issues were the first to contain aeronautical information for the area previously covered by ASWA Enroute Charts 9 and 10:

- DOD PAA FLIP Planning Section II-B dated 17 August 1972.
- DOD PAA FLIP Planning Section II dated 14 September 1972.
- DOD PSEA FLIP Enroute Supplement and Charts dated 14 September 1972.
- DOD PSEA FLIP Terminal Procedures dated 14 September 1972.

feet, but also damage to the MAD head ($21,000) is not risked when brought aboard the helicopter with the hook.

While his suggestion is being thoroughly tested, Chief Byard has been initially awarded $50 by COMNAVAIRLANT. He may ultimately receive 15 times that amount. As this was written, NAVAIRENGCEN was testing the device which may apply to SH-3 as well as SH-2D helicopters.

Meanwhile, the squadron has modified their MRC deck to include cards 27B and 27B.1 as a local requirement to service the hydraulic actuator. This procedure, it is hopéd, will reduce the chances of a sticking switch preventing operation of the cable hoist.

Kudos

Philadelphia, Pa. – After reading APPROACH Magazine for 5 years, I would like to tell you that it is the most readable, most interesting of all the government publications that come across my desk. I am not a naval aviator, but I feel certain you are getting the message over to your audience.

Quality assurance, which is an important concern of mine, gets a particularly good treatment.

Good work! Keep it up.

James M. Dunford
Naval Air Engineering Center

Cover Art

Monterey, Calif. – IFF's count in a slightly different language than we do (octal base), and *eights* and *nines* are no longer used in the three digit modex of F-4's. Tiedown chains in opposing directions *are* used, however, as are secure hoisting arrangements. Other than for a few nit-picking points, the cover of your September 1972 issue is excellently done and very colorful.

LT E. Ohlert, USN
Naval Postgraduate School

NAS, South Weymouth – My compliments to Boeing-Vertol artist Howard Boyle and to your editors for their taste in selecting what is, in my opinion, one of the most eye-pleasing pieces of cover art in memory. I refer to the cover of the September edition of APPROACH. The painting has particular significance for me as I have one brother serving with a Marine HMT squadron which flies CH-46's, and another brother who has just been ordered to ENTERPRISE.

ATCS Andrew A. Moore
AIMD Maintenance

There Is a Way

FPO, San Francisco – After a recent incident involving the use of emergency procedures for lowering the landing gear, I asked the pilot in command, one of the squadron's more seasoned aviators, to jot down a brief narrative describing the details of his experience to assist me in preparing the required paperwork for reporting purposes. The following, in its entirety, is untouched by "human" hands:

"The Saga of the Gear – A True Life Encounter of Man Against Machine – Or – Let's Make a 360, and Get Out of Here!

Me puttie gearie handle down, gearie no come down . . . me curse and scream and beat on gearie indicator . . . still gearie no come down . . . me shed big tears and think terrible thoughts about marital status of metalsmith's parents . . . gearie still no come down . . . me try to think of way to get copilot to sign for aircraft . . . gearie still no come down . . . me tell copilot pumpie gearie handle . . . faster somanabeech . . . gearie come down . . . all peace and quiet in cockapit . . . amen."

LT D. Turner, USN
ASO, VS-29

• It's peculiar what thoughts race through a pilot's mind when faced with malfunctions/emergencies. There have been many cases where *Stoof* pilots had to cut through the deck to get the rollers down, but in this case neither pilot had to sweat very much. You just can't beat knowledge of the aircraft's systems when the unusual rears its head.

SAR Statistics

Silver Springs, Md. – The fine historical sketch on "SERE Today," by LT Dick Ritz, "Have You 'Learned to Return'?" in the September 1972 issue, was interesting background reading for this temporarily non-combat pilot. However, the statistics – the meat of the story – were presented in a somewhat misleading manner.

The columns labeled "Percentage of Total Downed Airmen" should read "Percentage of Total Survivors Recovered." This was obvious from the text, but the table indicated that all downed airmen were recovered. (The sum of line entries was 100%.)

Secondly, the percentages and recovery times do not match. Since the percentages sum to 100%, it is obvious that the recovery times should be tabulated as intervals (i.e., 84% recovered within one hour, 10% from 1-4 hours, etc.). On the other hand, if cumulative recovery times are desired in the table, the percentages should also be cumulative (i.e., 84% recovered within one hour, 94% within 4 hours, 99% within 24 hours, etc.).

Finally, in the paragraph immediately following the tables, I am puzzled by the reference to "survivor reports from Southeast Asia combat losses . . ." I presume LT Ritz refers to the overall class of combat loss reports.

A good article, like a good safety record, requires meticulous attention to details. Still, the message did get through; short-term survival is "in," as is multiservice coordination. Thank you, APPROACH.

CDR R. V. Buck, USN
Officer in Charge
Strategic Analysis Support Group
Applied Physics Laboratory
Johns Hopkins University

• By way of clarification, LT Ritz says when he used the term "Southeast Asia combat losses," he was referring to aircraft downed by hostile fire in SEA, not to people. "Survivor reports" were either official or personal debriefs.

The tables restructured are as follows:

Worldwide (Non-Combat)

Percentage of Total Airmen Recovered	Rescued
84%	Within 1st hour after touchdown
10%	2nd hour through 4th hour
5%	5th hour through 24th hour
1%	After 24 hours

Southeast Asia (Combat)

Percentage of Total Airmen Recovered	Rescued
36%	Within 30 minutes of touchdown
22%	31 minutes through 60 minutes
27%	2nd hour through 6th hour
12%	7th hour through 24th hour
3%	After 24 hours

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Vol. 18 **approach** No. 6

RADM W. S. Nelson
Commander, Naval Safety Center
Publisher

Our product is safety, our process is education and our profit is measured in the preservation of lives and equipment and increased mission readiness.

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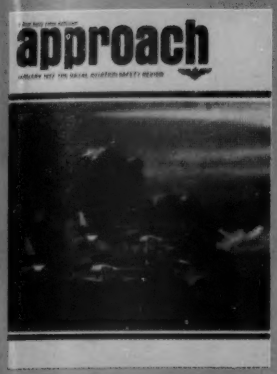
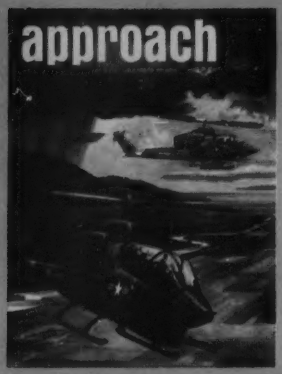
Credits

December's traditional cover by R. G. Smith depicts a section of the latest aircraft to join the Training Command, Douglas TA-4J *Skyhawks*. Pg. 14 Photo: PHC C. L. Richardson. Pg. 30 Photo: Dennis J. Pool, NAS Alameda.

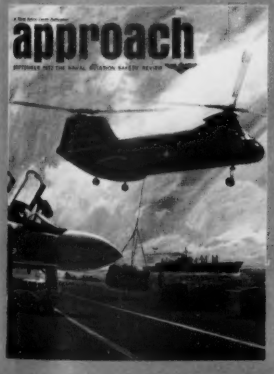


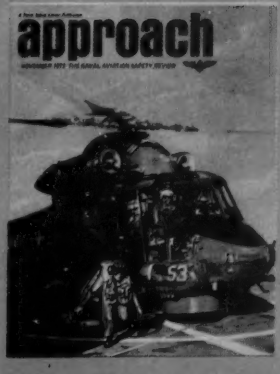


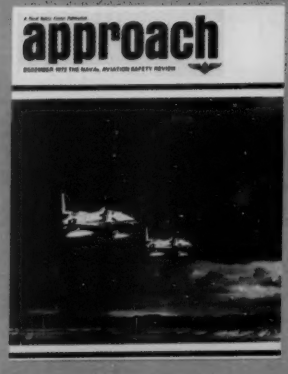
Since July 1955, APPROACH has offered aviators and aircrewmen the finest, most current information available on the subject of naval aviation safety. This year, 1972, has been no exception.

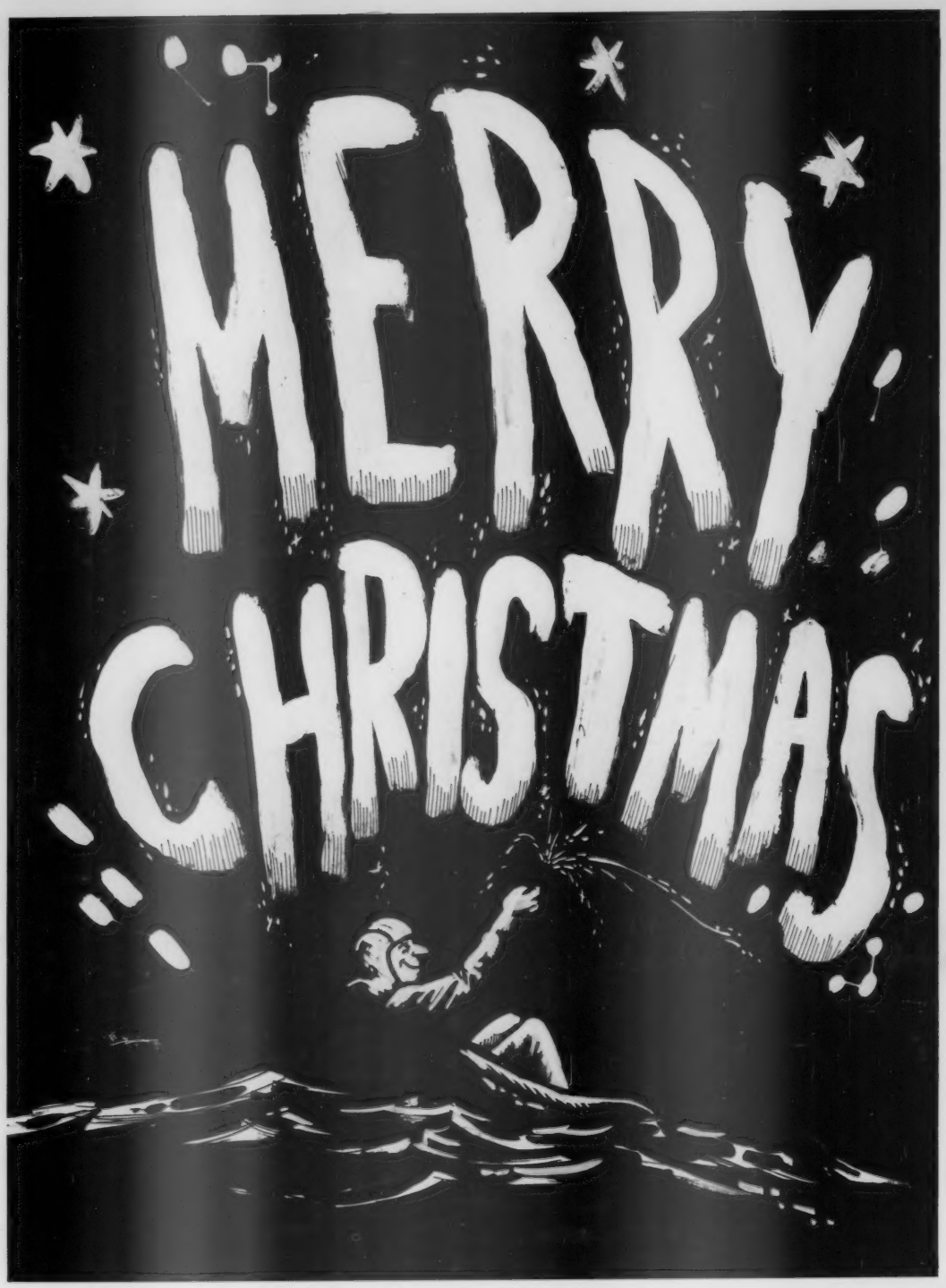
Much of the material found within these 12 covers has been authored by professionals in the fleet – such as you.

We commend APPROACH not only for your reading enjoyment, but for the insurance it offers – free!









"Now, that's what I call a signal."